CHANGE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

8300.10 CHG 8

7/24/92

SUBJ: **AIRWORTHINESS INSPECTOR'S HANDBOOK**

1. PURPOSE. **This change transmits revised and new portions to this handbook.**

2. CANCELLATION. **Order 8300.9, Airworthiness Inspector's Handbook, dated July 26, 1985, is canceled.**

3. EXPLANATION OF CHANGES.

a. **This change includes corrections to the following chapters, which were also reorganized for clarity: Volume 1, Chapter 1; Volume 2, Chapters 24, 35, 36, 65, 83, 89, 92, 95, 185, 186, 187, 188, 203, and 215; Volume 3, Chapters 4, 25, 39, 45, 129, 132, and 136.**

b. **This change adds Volume 4, Chapters 5, 6, and 7.**

c. **Appendix 1, Comprehensive Index, was updated.**

4. DISPOSITION OF TRANSMITTAL. **This transmittal is to be RETAINED AND FILED IN THE BACK OF THIS HANDBOOK until superseded by a new basic order.**

Thomas C. Accardi
Director, Flight Standards Service

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CHAPTER 1 GENERAL INFORMATION

1. PURPOSE. This order is referred to as a handbook and, as such, directs the activities and provides guidance for Airworthiness Aviation Safety Inspectors (ASI's), involved in the following:

A. The certification, technical administration, and surveillance of individuals, facilities, and organizations in accordance with FAR Parts 65, 91, 121, 125, 129, 133, 135, 137, 141, 145, 147, 149, and 183.

B. Investigating, conducting, and/or responding to aircraft accidents and incidents, accident prevention activities, enforcement activities, and miscellaneous tasks not related to specific Federal Aviation Regulations.

3. DISTRIBUTION. This order is distributed to addressees on special distribution list ZFS-830.

5. CANCELLATION. With the publication of this change, this order is considered fully implemented. Order 8300.9, Airworthiness Inspector's Handbook, dated July 26, 1985, is thereby cancelled by the implementation of Order 8300.10.

7. DEFINITIONS

A. *Handbook:* The handbook is a directive designed to provide essential overall instructions, guidance, and requirements for operations, airworthiness, and manufacturing field personnel to accomplish their job functions.

B. *Applicable*: Capable or suitable for being applied.

C. *Appropriate*: Especially suitable or compatible; fitting.

D. *Available*: Accessible, obtainable.

E. *Guidance Information*: Information that is advisory in nature and contains terms such as "will," "should," or "may." These terms indicate actions that are desirable, permissible, or not mandatory, and allow flexibility on the part of the ASI.

F. *Directive Information.* Information that is regulatory in nature and uses terms such as "shall" and "must." These terms mean that the actions are MANDATORY. "Shall not" or "must not" means that the actions are PROHIBITED. The use of these terms allows the ASI no flexibility and that their direction must be followed, unless otherwise authorized by headquarters division managers.

9. AUTHORITY TO CHANGE THIS DOCUMENT. The Director, Flight Standards Service (AFS-1), must approve all changes to this order and its appendices. Any proposed change must be approved by the Director, Flight Standards Service. Regional supplements to this order are prohibited. All proposed changes to this order should be addressed to the Technical Standards Branch, AFS-550.

11. HANDBOOK FORMAT AND UTILIZATION. This handbook has been designed to serve as a multipurpose document that will meet the needs of newly hired ASI's as well as experienced principal inspectors. Information currently found in many separate documents has been compiled to make the handbook as comprehensive as possible. The general layout of the handbook is as follows:

- Volume 1 contains generic and general information that an ASI should know prior to performing the job tasks in Volumes 2 and 3
- Volume 2 (Certification) and Volume 3 (Surveillance) contain all of the job tasks accomplished by Airworthiness ASI's
- Volume 4 contains reference material and additional guidance in areas that are not a specific job task

A. *Task Chapters.* Each chapter in Volumes 2 and 3 represents a separate task that can be accomplished by an ASI. Tasks were initially identified from the 1985 Job Task Analysis and are revised as ASI/principal inspector responsibilities, regulations, and the safety needs of the aviation community change. Each chapter, except for introductory chapters, is divided into two sections, Background and Procedures.

(1) *Section 1, Background.* This section contains material that explains why the task is done, any historical considerations, and provides current FAA policy. Section 1, will usually consist of the following format:

(a) *Paragraph 1, "PTRS Codes":* This paragraph will always give the PTRS codes (when applicable) for that task for each involved Airworthiness specialty and the Cabin Safety Specialist, when applicable.

(b) *Paragraph 3, "Objectives":* This paragraph will state the general objective of that particular task. This can include the specific FAR Part(s) that the chapter applies to, the specific regulatory basis for the chapter, and a brief explanation of the ASI's role.

NOTE: If any particular task has definitions of terms not found in other sections of the Federal Aviation Regulations, the definitions will be included in Paragraph 7, "Definitions."

(2) *Section 2, Procedures.* Section 2, will usually consist of the following format:

(a) *Paragraph 1, "Prerequisites and Coordination Requirements":* This paragraph is broken down into two subparagraphs, "A" and "B." These subparagraphs will consist of the following information:

- Subparagraph A, "Prerequisites," gives the specific FAR knowledge, course requirements, inspector authorizations, and familiarity requirements necessary for performing the task
- Subparagraph B, "Coordination Requirements," gives a list of the people, organizations, specialties, agencies, etc., that might require coordination with the ASI performing the task

(b) *Paragraph 3, "References, Forms, and Job Aids":* This paragraph is broken down into three subparagraphs, "A," "B," and "C." These subparagraphs will consist of the following information:

- Subparagraph A, "References," gives a list of materials that will assist the ASI in performing that chapter's task. This can include additional FAR Parts to those listed in "Prerequisites, CFR's, Advisory Circulars, operators' manuals, manufacturers' manuals, etc.
- Subparagraph B, "Forms," gives a list of the specific FAA/DOT forms that the ASI will require in order to perform the task
- Subparagraph C, "Job Aids," gives a list of the "Figures" that are provided at the end of the chapter. These "Figures" can include a list of guidelines, examples of official forms, or can be an unofficial form that can be copied and used to fill a need not covered by an official form. An example is the Five Day Grounding job aid found in Vol. 3, Ch. 6.

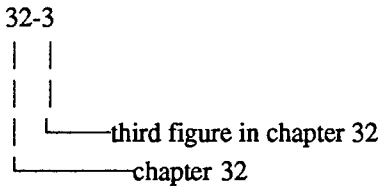
(c) *Paragraph 5, "Procedures":* This paragraph contains the step-by-step outline of how to perform the task. All steps in the task are included, however, some steps may refer the ASI to another task/chapter. When that occurs, the referenced task must be performed before resuming the procedures in the original task. Performance criteria are either included with the step or the location of the objective criteria is identified (i.e., practical test standards, FAR section, etc.)

(d) *Paragraph 7/15, "Task Outcomes":* This paragraph contains the final steps of the job task and tells what the end result of the task should be.

(e) *Paragraph 9/17 "Future Activities"*: This paragraph lists any follow-up activities that should be accomplished as a result of the task just performed.

B. *Paragraph Numbering.* Paragraphs are numbered consecutively, starting at number 1 in each section, of each chapter, of each volume. Only odd numbers are used; 1, 3, 5, etc., to enable greater ease of revision. For example, new information in future updates can be included as paragraphs 2, 4, or 6.

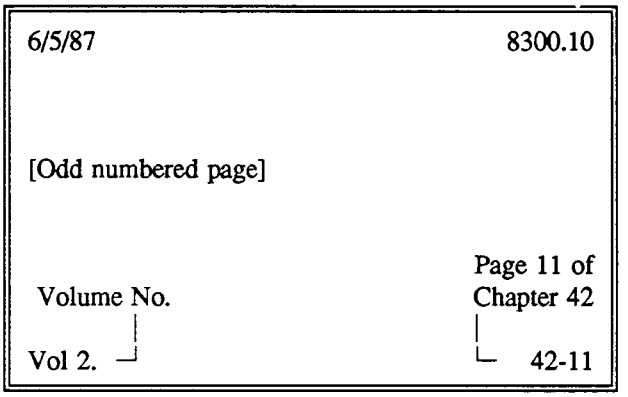
C. *Figure Numbering.* The numbering of figures enables the ASI to note the chapter to which the figure refers. For example, Figure 32-3 is interpreted as follows:

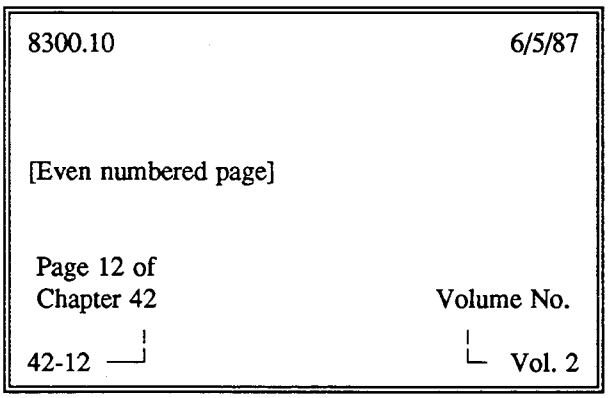


D. *Chapter Pagination.* The pagination of each chapter is designed to simplify the addition of revisions, the replacement of lost or misplaced pages, and the location of subject areas.

(1) Each chapter begins with page one and is identified with the chapter number; i.e., 131-1 is chapter 131, page 1.

(2) On each page the top margin contains the handbook number and the date the page was issued; position (either right or left) is reversed on odd and even pages. The bottom margin contains the volume number and the page number of the chapter (again, reversed on odd an even pages). For example:





E. *Reserved Pages, Chapters, and Paragraphs.* For the purposes of this handbook, reserved pages, chapters, and paragraphs are present to preserve the sequence of codification and allow for revisions without re-numbering the succeeding portions.

13. HANDBOOK CURRENCY. This order will be kept current by issuing changes and Airworthiness Handbook Bulletins as the need occurs.

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CHAPTER 24 CERTIFICATE REPAIRMAN/ADDED PRIVILEGES

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance:* 3510

B. *Avionics:* 5510

3. OBJECTIVE. This chapter provides guidance and describes procedures for certificating applications for repairman certificates and added privileges.

5. GENERAL

A. Applicants for repairman certification are employed by repair stations or air carriers. Issuance of a repairman certificate is based on practical experience of at least 18 months or formal training appropriate for the position and to the satisfaction of the Administrator. Applicants must be at least 18 years of age and read, write, speak, and understand English.

(1) According to FAR § 145.41(b), an applicant must be at or above the level of shop foreman or department head, or must be able to supervise the work performed by employees of the repair station.

(2) An applicant employed by an air carrier or repair station may be assigned to a position requiring at least one of the following:

- Responsibility for the work of a shop or department that performs maintenance
- Authorization to sign the airworthiness release or log entry according to the air carrier's manual
- Performance of inspections required by the air carrier's manual

(3) A repairman employed by an air carrier or repair station which also holds a repair station certificate may apply for one certificate if the duties are the time in both operations. AVN-460 will issue one certificate with the same privileges listing each operation in the limitations section. If a repairman is employed at either the operator or the repair station and subsequently wishes to be added to the other, certification will be handled as an added privilege.

(4) A repairman employed and certificated by more than one repair station or by more than one operator, where the employers are distinctly different business entities, will need a separate airman certificate for each repair station or operator.

(5) A repairman employed by a repair station using stations at different locations may serve in any station in that system in accordance with FAR § 145.51.

B. For each certificate/rating requested, an applicant should submit the following:

- One copy of FAA Form 8610-2, Airman Certificate and/or Rating Application, with items I through IV completed. Applicants should check the box for Repairman Certificate and indicate the privileges sought.
- A letter of recommendation from the applicant's employer clearly stating that the applicant meets the requirements of FAR § 65,101, 145.39, 145.41, and 145.43. The letter should describe the specialized jobs the applicant will perform or supervise as a repairman.

C. Ratings for an applicant employed by an air carrier or repair station should coincide with ratings issued at the repair station limited to the specific job for which the person is employed to perform or supervise.

(1) In no instance should a repairman certificate be issued with an airframe and/or powerplant rating to circumvent the process of obtaining a mechanic certificate. If a repairman certificate has been issued with airframe and/or powerplant ratings, request that the airman surrender the certificate. Issue a repairman certificate with the appropriate privileges and limitations.

(2) Repairman certificates should be reserved for applicants having special skills, such as:

- Argon-heliarc welding
- Cylinder plating
- Nondestructive testing
- Propeller overhaul
- Electrical system analysis and repair. This type of certificate should be reserved for specific systems only, such as flight guidance databus and power distribution.
- Radio and/or instrument repair. For these repairman certificates, the applicable privileges may be entered as "radio and instrument" or "radio" or "instrument."

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Parts 43, 65 and 145

B. *Coordination.* This task may require coordination between Maintenance and Avionics Aviation Safety Inspectors (ASIs).

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- Advisory Circular 65-24, Certification of a Repairman (General), as amended

B. *Forms*

- FAA Form 8610-2, Airman Certificate and/or Rating Application
- FAA Form 8060-4, Temporary Airman Certificate

C. *Job Aids.* None.

5. PROCEDURES

A. *Verify Eligibility.* Ensure that the applicant is at least 18 years of age and reads, writes, speaks, and understands English.

B. *Review the Application and Letter of Recommendation*

(1) *Application.* Ensure that the applicant checks the box for Repairman Certificate and indicates the privilege(s) sought on the front of FAA Form 8610-2, Airman Certificate and/or Rating Application. Determine if the applicant meets the requirements of FAR Part 65.

NOTE: AVN-460 no longer requires that the "Applicant Certification," A or B, on the reverse side of Form 8610-2, be filled out for a Repairman Certificate.

(2) Verify the Letter of Recommendation contains the following elements:

- A certification that the applicant meets the requirements of the privileges(s)/limitation(s) sought
- A statement recommending the applicant for the privileges(s)/limitation(s) sought

7. TASK OUTCOMES

A. *File PTRS Transmittal Form*

B. *Issue Certificate.* When it has been determined whether the applicant meets all the requirements for certification, sign the applicant as approved and complete FAA Form 8060-4, Temporary Airman Certificate, in duplicate.

(1) Check the Airman Information portion of the National Vitals Information Subsystems to determine whether the applicant already possesses a certificate. An applicant seeking added privileges to a specific certificate must surrender the applicable Airman Certificate, FAA Form 8610-2, held at the time of application approval.

(2) Give the application a copy of FAA Form 8060-4. Both the applicant and the ASI must sign this form.

(3) Complete the ASI's report portion on the reverse side of FAA Form 8610-2.

(4) Send the original FAA Form 8610-2, the Letter of Recommendation, Airman Certificate (for an added privilege, as applicable) and the original FAA Form 8060-4 to the Airmen Certification Branch, AVN-460.

C. *Deny Certificate.* If the application is disapproved, return it to the applicant with a letter explaining the denial.

9. FUTURE ACTIVITIES

A. Review repair station and air carrier records to determine if the scope of the applicant's employment is consistent with the job described in the Letter of Recommendation.

B. Send Airman Certificates surrendered in accordance with FAR § 65.15(c) to the Airmen Certification Branch, AVN-460, with a brief statement relating to the circumstances.

FIGURE 24-1, TEMPORARY AIRMAN CERTIFICATE

To issue FAA Form 8060-4, Temporary Airman Certificate, for an application to work at a repair station, fill out the form as indicated below:

A. In Item III, type the social security number, or if an exclusive number is requested, type the word "Pending."

B. In Item IX, type the word "Repairman."

C. In Item XII, type the following: Certificate privileges of FAR § 65.103 valid for (applicable privileges) while employed by (name of repair station, city, state)

D. In Item XIII, type the repair station certificate number.

FIGURE 24-2, TEMPORARY AIRMAN CERTIFICATE FOR AN AIR CARRIER OR A REPAIR STATION

To issue FAA Form 8060-4, Temporary Airman Certificate, for an applicant to work for an air carrier or a repair station, fill out the form as indicated below:

A. In Item III, type the social security number. If an exclusive number is requested, type the word "Pending," and AVN-460 will assign a number.

B. In Item IX, type the word "Repairman."

C. In Item XII, type the following: Certificate privileges of FAR § 65.103 valid for (applicable privileges) while employed by (air carrier and/or repair station name, city, and state).

FIGURE 24-2, TEMPORARY AIRMAN CERTIFICATE FOR AN AIR CARRIER OR A REPAIR STATION

To issue FAA Form 8060-4, Temporary Airman Certificate, for an applicant to work for an air carrier or a repair station, fill out the form as indicated below:

A. In Item III, type the social security number. If an exclusive number is requested, type the word "Pending," and AVN-460 will assign a number.

B. In Item IX, type the word "Repairman."

C. In Item XII, type the following: Certificate privileges of FAR § 65.103 valid for (applicable privileges) while employed by (air carrier and/or repair station name, city, and state).

CHAPTER 35 INTRODUCTION TO FAR PART 91 RELATED TASKS

1. FAR PART 91 AUTHORITY. The regulations of FAR Part 91, Subpart C prescribe the maintenance requirements for all U.S.-registered civil aircraft operating within and/or outside the United States.

3. MAINTENANCE RESPONSIBILITY. Technological advancements in general aviation-type aircraft dictate the need for maintenance requirements. Therefore, all aircraft must be maintained in a condition for safe operation and meet their respective type designs. It is essential that the continued airworthiness of aircraft be consistent with the terms of the original airworthiness certificate.

A. FAR § 91.403 places the responsibility for maintaining the aircraft in an airworthy condition on the owner/operator. The actual maintenance of the aircraft must be performed or supervised by certificated persons.

B. The owner/operator must have the aircraft inspected as prescribed in FAR §§ 91.409, 91.411, and 91.413. Between these required inspections, discrepancies must be repaired as prescribed in FAR Part 43.

C. *Repainting Aircraft.* FAR Part 43, Appendix A, paragraph (c)(9) defines preventive maintenance actions. All maintenance must be accomplished in accordance with the performance standards of Section 43.13 and must conform to the other applicable sections of Part 43.

(1) FAR § 43.15(a)(1) states that any person performing an inspection required by FAR Part 91 shall perform the inspection so as to determine whether the aircraft under inspection, or portions thereof, meets all applicable airworthiness requirements. This includes any maintenance items performed during the repainting of an aircraft.

(2) During routine surveillance activities, Aviation Safety Inspectors (ASIs) should determine the airworthiness status of aircraft which appear to have been painted recently by verifying that properly certificated facilities/persons performed the maintenance in accordance with the manufacturer's manuals and that the maintenance was documented in the aircraft's records.

(3) FAR § 91.407 states that no person may operate any aircraft that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless it has been approved for return to service by a person authorized under FAR §§ 43.9 or 43.11, as applicable.

5. TYPES OF INSPECTION PROGRAMS. Several options for inspection programs are available in FAR Part 91, Subpart C. The inspection program an operator uses is dictated by the size of the aircraft, the type of propulsion, and the type of operation.

CHAPTER 36 EVALUATE/INSPECT FAR PART 91 OPERATOR'S AIRCRAFT

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: 3680 (General)

B. *Avionics*: 5680 (General)

3. OBJECTIVE. This chapter provides guidance for evaluating and inspecting aircraft and aircraft maintenance programs in accordance with FAR Part 91.

5. INSPECTION PROGRAMS. Several types of inspection programs are available to the FAR Part 91 owner/operator.

A. *Annual and 100-Hour Inspections*

(1) FAR § 43.11 requires persons approving or disapproving equipment for return to service after any required inspection to make an entry in the appropriate maintenance record. Airworthiness Aviation Safety Inspectors (ASIs) must remember that neither FAR Parts 43 nor 91 require separate maintenance records to be kept.

(2) When an owner elects to maintain a single maintenance record, the entry of the annual or 100-hour inspection is made in that record. If the owner maintains separate maintenance records for the airframe, powerplants, propellers, appliances, and components, the entry for the annual inspection is only required to be entered in the airframe record, while the 100-hour inspection must be entered in every associated record.

(3) *Annual Inspections.* FAR § 91.409(a) requires that a person who operates an aircraft must ensure that the aircraft has been inspected in accordance with the requirements of an annual inspection.

(a) Annual inspections are designed to provide a complete and comprehensive inspection of an aircraft. They are performed at specified intervals by persons authorized under FAR § 43.7. The inspection determines the condition of the aircraft and the maintenance required to return the aircraft to an acceptable condition of airworthiness. The scope and detail of an annual inspection are defined in Appendix D of FAR Part 43.

(b) While conducting surveillance, airworthiness inspectors will review aircraft maintenance records to determine if the requirements of an annual inspection have been accomplished.

(c) The owner/operator of an aircraft may have annual inspections conducted at any interval which does not exceed the maximum of 12 calendar months between inspections, as specified by FAR § 91.409(a)(1). For example, an aircraft inspected and approved upon any day of a calendar month will become due for inspection upon the last day of the same month, 12 months later.

(d) FAR § 43.15 and Appendix D provide that all systems, components, and appliances shall be checked to ensure proper installation and satisfactory operation. Prior to conducting surveillance of annual inspections performed by maintenance personnel, inspectors should become familiar with the manufacturer's recommended inspection procedures, special instructions, etc. Inspectors should know the acceptable degree of deterioration or defect permitted by the manufacturer of the product, as set forth in the manufacturer's manuals or other data.

(e) In all cases, persons authorized to perform inspections under FAR §§ 43.3 and 43.7 must determine from records and physical inspection that the aircraft complies with the contents of the following:

- Aircraft Specification
- Type Certificate Data Sheet

- Supplemental Type Certificate, if applicable
- Airworthiness Directives
- FAA Form 337, Major Repair and Alteration

(f) The above documents must be available to the maintenance personnel conducting an inspection. Applicability of a Supplemental Type Certificate may be determined by reference to the aircraft maintenance records.

(g) The inspection is not considered complete until the required recording procedures of FAR §§ 43.11 and 91.417 are met.

- Under the provisions of FAR § 43.11, the agency or person performing the inspection is responsible for recording the inspection in the maintenance records.
- If the person conducting the inspection finds the aircraft to be unairworthy, appropriate entries must be made in the aircraft maintenance records. The owner/operator must be furnished with a list of discrepancies or unairworthy items.
- The owner/operator must ensure that the maintenance records contain proper entries in accordance with FAR § 91.417. The owner/operator must correct discrepancies found during the inspection before the aircraft is returned to service.

(4) *100-Hour Inspection.* The scope and detail of a 100-hour inspection are defined in Appendix D of FAR Part 43. One-hundred-hour inspections are required in addition to annual inspections under the following situations:

- Aircraft are operated for carrying persons for compensation or hire
- Aircraft are used for flight instructions if furnished by the flight instructor

B. *Progressive Inspections.* The progressive inspection must be a complete inspection of the aircraft, conducted in stages, with all stages being completed in a period of 12 calendar months.

(1) An owner/operator choosing to use a progressive inspection program must submit a written request to the Flight Standards District Office (FSDO) with jurisdiction over the area in which the applicant is located.

(a) The owner/operator may develop a progressive inspection program tailored to fit the operation.

(b) Airworthiness inspectors must be cautious when reviewing progressive inspection programs developed by the manufacturer. These programs do not automatically fit the needs of each individual operator and should be reviewed on a case-by-case basis.

(c) The owner/operator's progressive inspection program may be more restrictive than the manufacturer's program, but it may not be less restrictive unless sufficient justification is presented to and accepted by the FAA.

(2) The inspector should not attempt to establish for the owner/operator arbitrary intervals for the inspection or overhaul of aircraft. Intervals should be based on the manufacturer's recommendations, field service experience, malfunction and defect history, and the type of operation in which the aircraft is engaged.

(3) If the progressive inspection is discontinued, the owner or operator shall notify the local FSDO immediately in writing. After the discontinuance, the first annual inspection is due within 12 calendar months after a complete inspection has been accomplished in accordance with the progressive inspection program.

C. *Large Airplane (Over 12,500 lbs.) and Turbine Powered (Turbojet and Turbopropeller) Multiengine Airplane Inspection Programs.* These aircraft must be inspected according to the requirements of an inspection program selected by the owner/operator. FAR § 91.409(f) outlines various options available to the owner/operator.

(1) It may appear that some of the options specified in FAR § 91.409(f)(1) through (3) do not involve the field inspector, as they refer to previously approved and manufacturer recommended programs. However, inspectors should recognize that these programs must be either currently recommended by the manufacturer or currently in use by the airline, air taxi, or FAR Part 125 operator supplying the program. This requirement is intended to prevent use of obsolete programs.

(2) Reference to a manufacturer recommended program has led to several misconceptions as to what precisely constitutes such a program.

(a) FAR § 91.409(f)(3) states "A current inspection program recommended by the manufacturer." No reference is made to the aircraft manufacturer specifically. FAR § 91.409(e), however, requires inspection of the airframe, engines, propellers, appliances, survival equipment, and emergency equipment.

(b) A complete manufacturer's recommended program therefore consists of the program supplied by the airframe manufacturer and supplemented by the inspection programs provided by the manufacturers of the engines, propellers, appliances, survival equipment, and emergency equipment installed on the aircraft.

NOTE: Because this program addresses inspections only, it does not include service bulletins, service letters, service instructions, and other maintenance documents.

D. *Approved Aircraft Inspection Programs.* FAR Part 91 addresses use of approved aircraft inspection programs in three sections. The following quotes from FAR Part 91 are cited because of frequent misinterpretation of the term "approved aircraft inspection program" by operators and FAA personnel alike.

(1) FAR § 91.409(f) states that the owner/operator must select, identify, and use one of four inspection programs. FAR § 91.409(f)(2) presents as one of the four options "an Approved Aircraft Inspection Program (AAIP) approved under FAR § 135.419 . . . and currently in use by a person holding an operating certificate issued under FAR Part 135."

(2) FAR § 91.409(g) states "Each operator of an airplane desiring to establish or change an approved inspection program under Paragraph (f)(4) of this section must submit the program for approval to the local FSDO having jurisdiction over the area in which the airplane is based." The approved inspection program spoken to in this section is not to be confused with an *Approved Aircraft Inspection Program* (AAIP) as allowed in FAR § 91.409(f)(2).

(3) FAR § 91.415(a) states "Whenever the Administrator finds that revisions to an approved aircraft inspection program under FAR § 91.409(f)(4) are necessary for the continued adequacy of the program, the owner or operator shall, after notification by the Administrator, make any changes in the program found to be necessary by the Administrator." The inspection program referenced in this section is not to be confused with an approved aircraft inspection program (AAIP) approved under the requirements of FAR § 135.419.

NOTE: The inspector should ensure that the program includes inspection of all systems, including avionics.

7. COMPUTERIZED RECORD KEEPING AND ALERTING PROGRAMS. Computer companies have made available computer programs designed to function as maintenance tracking programs. These programs do not have the prior approval of the FAA.

A. In order to utilize one of these programs, the aircraft owner/operator must present the program to the FAA for approval. FAA approval of one of these computerized programs for one owner/operator does not constitute approval for use of the same program by all operators.

B. FAA approval of a particular computerized program for an individual operator does not grant approval of the program for the computer company.

(1) Each computerized program must be approved for the individual owner/operator. No other form of approval is acceptable.

(2) Use of the computerized companies' services is for data collection and distribution only.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites.* This task requires knowledge of Federal Aviation Regulations.

B. *Coordination.* This task requires coordination between Airworthiness Aviation Safety Inspectors (ASIs).

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- FAR Parts 39, 43, 65, and 91, and FAR § 135.419
- Advisory Circular 39-7, Airworthiness Directives, as amended
- Advisory Circular 43-9, Maintenance Records, as amended
- Advisory Circular 43.9-1E, Instructions for Completion of FAA Form 337, Major Repair and Alteration, as amended
- Advisory Circular 43-16, General Aviation Airworthiness Alerts, as amended
- Advisory Circular 91-38A, Large and Turbine Powered Multiengine Airplanes, Part 91, Subpart D, as amended
- Order 8300.10, Airworthiness Inspector's Handbook, Vol. 2, Ch. 38, Evaluate FAR Part 91 Operator's Maintenance Records

B. *Forms.* None.

C. *Job Aids.* None.

5. PROCEDURES

A. *Review Maintenance Records.* Ensure that persons approving and disapproving equipment for return to service after any required inspection have entered the inspection in the record of that equipment. Ensure that when an owner maintains a single record, the entry for required inspections is made in that record. Ensure that if the owner maintains separate records for the airframe, engines, powerplants, propellers, appliances, and components, the entry for required inspections is entered in each.

(1) *Annual/100-Hour Inspection.* Review records to ensure compliance with the requirements of FAR §§ 43.11 and 91.417. Determine whether the appropriate entries have been made and have met regulatory requirements.

NOTE: The annual and 100-hour inspections are identical in scope and detail. The only difference is in the performance and approval of the annual inspection, which must be accomplished by a person authorized under FAR §§ 43.3 and 43.7.

(2) *Progressive Inspection.* Ensure that records indicate the following:

- Completion of an annual inspection prior to the commencement of inspections under a progressive inspection program
- Compliance with inspection intervals prescribed in the progressive program
- Completion of the inspection cycle within 12 calendar months

(3) *Large Airplane (Over 12,500 lbs.) and Turbine-Powered (Turbojet and Turbopropeller) Multiengine Airplane Inspection Programs.* Ensure that the maintenance records indicate that the owner/operator has identified and is using a

selected program in accordance with FAR § 91.409(f). Ensure that any inspection program that contains a computerized record keeping and alerting system has been approved by the FAA prior to implementation. Ensure that this system reflects the current airworthiness requirements for the individual airplane.

B. *Conduct Surveillance of the Aircraft.* Examine the aircraft to determine, to the extent possible, that it is in condition for safe operation. Ensure that the inspection is accomplished either in the presence of or with specific approval from the owner/operator. The following are examples of items to be checked:

- Proper internal and external placarding
- Obvious signs of excessive wear and deterioration, including corrosion, worn places on tires, nicks in the leading edge of the propeller blades, broken windshields, etc.
- Condition of fabric on fabric-covered control surfaces, wings, or fuselages
- The interior of the aircraft for obvious deterioration
- Any other indication that would render the aircraft unsafe for flight

C. *Review and Accept a Progressive Inspection Program*

(1) Advise the owner/operator desiring a progressive inspection program to submit a letter of intent and a copy of the program, as required by FAR § 91.409.

NOTE: The inspector should carefully review FAR § 91.409 (d) prior to analysis of the program.

(2) Upon receipt of the letter of intent and program, ensure the following:

- The program includes the entire aircraft and its components
- The program will provide a complete inspection of the aircraft within 12 calendar months. Inspection intervals should be based on the manufacturer's recommendations, field service experience, malfunction and defect history, and the type of operation in which the aircraft is engaged.
- The scope of the inspection equals that of an annual type inspection
- The progressive inspection schedule ensures that the aircraft will be airworthy at all times and will conform to all applicable FAA aircraft specifications, type certificate data sheets, airworthiness directives, and other approved data
- The program includes procedures for the immediate, written notification of the local FSDO upon the discontinuance of the progressive program and the assumption of an annual inspection program

(3) Analyze results of the review.

(4) Notify the operator in writing of any deficiencies found in the program.

(a) Request that the operator inform the FAA of plans for resolving deficient items.

(b) Once deficiencies have been corrected to meet the requirements of FAR § 91.409, notify the operator in writing that the program has been accepted.

(5) Establish and maintain an operator file in accordance with agency orders. The file should include a copy of the program and all related correspondence.

D. *Approve an Inspection Program Under FAR § 91.409(f)(4)*

(1) Ensure that the operator of a large airplane, multiengine turbojet or turbopropeller powered airplane desiring an approved inspection program submits the program for approval to the appropriate FSDO.

(2) Ensure that the program is in writing and details the following:

- Instructions and procedures for conducting inspections, including necessary tests and checks
- Inspection intervals, expressed in any combination of flight hours, cycles, or calendar time
- The parts and areas that are required to be inspected

(3) Compare the submitted program with the manufacturer's recommended program. Ensure that all deletions of items and inspection period escalations are completely justified by the applicant. Where there is no manufacturer's recommended program, use a time-tested program for comparison purposes.

(4) Ensure that the program developed by the applicant provides a level of safety equivalent to or greater than that provided by the inspection options of FAR § 91.409(f)(1) through (3).

(5) Indicate approval on the cover page of the inspection program. Include the date of approval, the inspector's signature, and the office name, number, and location. Stamp each succeeding page with the district office stamp, date, and the initials of the inspector.

7. TASK OUTCOMES

A. *File a completed PTRS Transmittal Form.*

B. Successful completion of the task will result in acceptance and/or approval of the inspection programs.

9. FUTURE ACTIVITIES. Carefully monitor inspection systems for compliance with appropriate Federal Aviation Regulations and for continued airworthiness of subject aircraft. Determine whether maintenance practices are performed at an adequate level of safety. Direct particular attention to any areas where trends indicate a faulty inspection system or inadequate maintenance. Take immediate action to correct any deficiencies.

[CHAPTERS 38 THROUGH 59 RESERVED]

CHAPTER 65 EVALUATE CONTINUING ANALYSIS AND SURVEILLANCE PROGRAM/REVISION

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: 3333 (New)/3334 (Revision)

B. *Avionics*: 5333 (New)/5334 (Revision)

3. OBJECTIVE. This chapter provides guidance for ensuring that an operator/applicant's Continuous Analysis and Surveillance Program (CASP) meets the necessary requirements for certification or revision.

5. GENERAL

A. The continuing analysis and surveillance system is usually included in the operator's maintenance manual. The system ensures the adequacy of an operator's maintenance program and confirms that the program is properly followed and controlled. FAR §§ 121.373 and 135.431 allow the FAA to require revisions to an operator's maintenance program based on deficiencies or irregularities revealed by the continuing analysis and surveillance system.

B. *Continuing Analysis and Surveillance Program Functions*

(1) A continuing analysis and surveillance system has two functions:

(a) The "audit function" which includes a follow-up for those components removed, and the teardown report must be a part of the Continuing Analysis and Surveillance Program. It must also include examining the administrative and supervisory aspects of the operator's program (including work done outside of the operator's basic organization). The audit must ensure that the Main Base, Sub Base, Line Station, and shops operate in accordance with company procedure. The audit function includes such things as:

- Ensuring that all publications and work forms are current and readily available to the user
- Ensuring that major repairs/alterations are classified properly and accomplished with approved data
- Ensuring that carryover items and deferred maintenance are properly handled
- Ensuring that vendors are properly authorized, qualified, staffed, and equipped to do the contractor function according to the operator's manual

(b) The "performance analysis function" includes daily and long-term monitoring and emergency response related to the performance of affected aircraft systems, including aircraft engines and components. This function includes monitoring such things as:

- Daily mechanical problems for affected aircraft (daily monitoring)
- Deferred maintenance items including excessive number and times (daily monitoring)
- Pilot reports compiled by Air Transport Association (ATA) code (long-term monitoring)
- Mechanical Interruption Summary Reports (MIS) (long-term monitoring)
- Contained engine failures (emergency response)
- High number of unscheduled component removals (long-term monitoring)

(2) The continuing analysis and surveillance program should include a system of data collection and analysis which may or may not be part of a reliability program.

C. The continuing analysis and surveillance system also addresses operational matters, such as maintenance scheduling, control and accountability of work forms, conformity to technical instruction, and compliance with procedural requirements. Additionally, it examines the adequacy of equipment and facilities, parts protection and inventory, mechanic competency, and shop orderliness.

7. REVIEWING THE OPERATOR'S PROGRAM

A. For maximum effectiveness, the continuing analysis and surveillance program should be separated from other maintenance functions. Some operators establish a separate quality assurance organization for this purpose. Others assign this function to their inspection/quality control organization. When the analysis and surveillance responsibility is assigned to an organizational unit that has other duties, these functions should be performed independently of the other duties.

B. Mechanical performance analysis may be performed as part of a reliability program or as an independent data collection and analysis system (See Advisory Circular 120-17, Maintenance Control by Reliability Methods, as amended). The system should include charting or other appropriate methods for recording and accounting of pertinent data at specified intervals. This will ensure continuous program operation. Data collection and analysis are essential elements for supporting the condition-monitoring process.

C. The use of contract agencies tends to complicate an operator's continuous analysis and surveillance system. When a contractor fails to provide the operator with essential information (such as failure characteristics, service times, etc.), gaps are created in the operator's data collection. This obstructs the continuous analysis and surveillance system. Therefore, the continuing analysis and surveillance program must include procedures for transmitting essential information back to the operator.

D. When aircraft fleets are grouped for purposes involving data collection, the data from the total of the fleets may provide a valid comparison for behavior of one of the fleets. However, data generated by a single airplane or a small fleet can be obscured by a larger fleet of the group.

NOTE: Unacceptable performance of a small fleet may not contribute a significant statistical impact unless the data from the smaller fleet is reviewed individually.

E. When an operator uses a contractor for total maintenance support, the operator is responsible for the continuing analysis and surveillance requirement. The operator must have enough personnel and resources to accomplish both the audit and performance analysis functions.

F. The complexity and sophistication of the continuous analysis and surveillance system should relate to the certificate holder's operation. A small operator should not be expected to have a complex system similar to a large airline. However, small operators must have a system with continuous data collection which includes specified analysis points and repetitive examinations.

G. A data collection and analysis program can use a manufacturer as a collection and analysis center if the Administrator agrees. The operator is still responsible for the development and implementation of corrective actions and the overall effectiveness of the program.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Parts 121 and/or 135
- Successful completion of either the General Aviation or Airworthiness Inspectors Indoctrination Course or equivalent
- Suggested completion of the FAA Reliability Training Course

B. *Coordination.* This task requires coordination between the Principal Maintenance Inspector (PMI) and the Principal Avionics Inspector (PAI).

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- FAR Part 43
- Advisory Circular 120-16, Continuous Airworthiness Maintenance Program, as amended
- Advisory Circular 120-17, Maintenance Control by Reliability Methods, as amended

B. *Forms.* None.

C. *Job Aids.* None.

5. PROCEDURES

A. *Brief Operator/Applicant On Program Requirements and Procedures.* When an operator/applicant inquires about a continuing analysis and surveillance program, brief the operator/applicant about program requirements. Inform the operator/applicant that an acceptable program must have a continuous internal audit and analysis system that accomplishes the following:

- Evaluates the organization's performance
- Identifies the performance deficiencies
- Determines and implements corrective actions
- Determines the effectiveness of corrective actions

B. *Review the Operator/Applicant's Program.* When the operator/applicant presents the complete continuing analysis and surveillance program, ensure that the program audits and analyzes the following:

- Aircraft inspections
- Scheduled maintenance
- Unscheduled maintenance
- Aircraft, engine, prop and appliance repair and overhaul
- Maintenance manuals
- Mechanical Reliability Reports (MRRs)
- Mechanical Interruption Summary Reports (MISRs)
- Vendor facilities and capabilities
- Maintenance organization staffing
- Required Inspection Item Program (RIIs)

C. *Review Operator's Manual.* Ensure that the manual contains the following:

(1) An organizational chart that defines the lines of authority

(2) Definitions of responsibilities and duties

(3) The means by which the information will flow within the operator/applicant's organization and between any contractor/vendors and the operator/applicant

(4) Examples of forms or reports that are used

(5) Procedures that include a record review covering the following items:

- Accountability for all inspection requirements
- Routine and non-routine maintenance records
- Overhaul records

- Methods of Airworthiness Directives (ADs) compliance
- Service bulletin compliance
- Major repairs and alterations approval data

D. *Evaluate Available Staffing.* Ensure that the staffing described in the manual is available and appropriate for the complexity of the operator/applicant's operation.

E. *Analyze Results.* Upon completion of the review, analyze the results and determine whether the operator/applicant's program meets all requirements. If problems exist, discuss the discrepancies with the operator/applicant and advise them as to what areas need corrective action.

7. TASK OUTCOMES

A. *File PTRS Transmittal Form*

B. Successful completion of this task will result in the acceptance of the continuous analysis and surveillance program or revision.

C. *Document Task.* File all supporting paperwork in the operator/applicant's office file.

9. FUTURE ACTIVITIES. Normal surveillance.

CHAPTER 83 EVALUATE FAR PART 135 (9 OR LESS) APPROVED AIRCRAFT INSPECTION PROGRAM

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: 3343/3344

B. *Avionics*: 5343/5344

3. OBJECTIVE. This chapter describes how to evaluate and approve an FAR Part 135 (9 or less) operator's Approved Aircraft Inspection Program (AAIP). It ensures that programs, systems, and intended methods of compliance are thoroughly reviewed, evaluated, and tested.

5. GENERAL

A. Inspectors should become thoroughly familiar with the operator/applicant's operation. Special attention should be given to:

- Areas of operation
- Type of equipment
- Operating history
- Maintenance/inspection organization, as applicable

B. An Approved Aircraft Inspection Program is authorized for use on operations specifications. Therefore, it cannot be transferred.

C. Large and turbine-powered multiengine aircraft inspection programs or progressive inspections per FAR Section 91.411 are more specific than the 100-hour/annual, but lack the ease and control provided by the approved aircraft inspection program. Programs for large and turbine-powered multiengine airplanes of 9-or-less passenger seats in operations under FAR Part 135 should be approved as AAIPs, because of the complexity of the aircraft. An AAIP is not considered better than a manufacturer's program; however, an AAIP provides the FAA inspector with more control of the program's content. It requires the operator to substantiate its program and revision to the approving inspector. Manufacturer's programs do not require this. This is not to say that a manufacturer's program cannot be used, but it must be identified as an AAIP approved for a particular operator as the operator's program, not the manufacturer's.

7. CHANGES TO APPROVED TIME INTERVALS

A. *Operator-Initiated Changes*

(1) The operator may request approval to amend inspection or overhaul intervals.

(a) The operator must justify the request using the following:

- Past operating experience
- Environmental conditions
- Inspection program provisions
- At least two overhaul tear-down reports
- Any other data necessary to substantiate changes

(b) Operator-initiated time changes require revisions to both the Approved Aircraft Inspection Program and operations specifications (see Vol. 2, Ch. 84, FAR Part 121/135 Operator's Specifications).

(2) Amendments or extensions are not allowed for life-limited items and/or those designated by airworthiness directives unless authorized in FAA-approved revisions.

B. *Manufacturer Escalations*

(1) If a manufacturer extends the recommended inspection or overhaul interval, the operator may request approval to use the extension by submitting a revision to the Approved Aircraft Inspection Program. The request must be accompanied by the manufacturer's recommendation.

(2) Inspectors should not automatically approve a time escalation recommended by the manufacturer. The individual operator's aircraft use and experience must be considered. The inspectors should ensure that the escalation will not compromise safety.

9. POLICIES AND PROCEDURES MANUAL. The Approved Aircraft Inspection Program must be included in the operator's policies and procedures manual. The operator should request a manual revision (in accordance with manual revision procedures) at the same time the Approved Aircraft Inspection Program/revision is submitted for approval. This allows the FAA to approve the Approved Aircraft Inspection Program/revision and accept the manual concurrently, while advancing implementation of the program.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Part 135
- Previous experience with complex maintenance/inspection programs

B. *Coordination.* This task is performed by both maintenance and avionics inspectors. It may require coordination with operations inspectors and/or regional specialists.

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- FAR Parts 39, 43, 45, 47, 65, and 125
- 49 CFR Part 173
- Advisory Circular 135.3, Airtaxi and Commercial Operators, as amended

B. *Forms*

- FAA Form 8400-8, Operations Specifications

C. *Job Aids*

- Automated operations specification checklists and worksheets

5. PROCEDURES

A. *Schedule and Conduct Preliminary Meeting, As Needed*

(1) Advise applicant of regulatory requirements and policies.

(2) Remind the operator that the Approved Aircraft Inspection Program/revision must be included in the policies and procedures manual.

B. *Plan and Coordinate Task*

(1) Determine whether the aircraft meets eligibility requirements.

(2) Review operator file to identify any information concerning the Approved Aircraft Inspection Program/revision. Determine its effect on the operator's other programs or procedures.

(3) If this task is performed as part of an original certification, review the Schedule of Events to ensure that the evaluation can be accomplished according to the schedule.

C. *Evaluate the Proposed Program/Revision*

(1) Evaluate instructions, procedures, and standards for conducting inspections.

(a) The program must include:

- Airframe
- Aircraft engines
- Propellers
- Appliances
- Survival and emergency equipment
- Component parts for the above items

(b) When establishing an inspection program for an aircraft, to comply with FAR 91.409(f)(5) or FAR 135.419, the program should include installed avionics and instrument systems (appliances). These systems are not always installed by the aircraft manufacturer and may not be included in their recommended inspection program to develop your inspection; instructions and procedures for all installed systems should be incorporated into the program.

(c) Inspection standards, procedures, methods, instructions or other technical data may be included in the program by reference, eliminating the expense and trouble of reprinting them. Such references may be either the airframe manufacturer's or the appliance manufacturer's service data. However, when both airframe manufacturer and the appliance manufacturer provide inspection data, that of the airframe manufacturer should be used.

(d) The avionics and instrument systems inspection should include a visual and functional check. Therefore, these definitions should be included in the program:

- *Visual Check* - Utilizing acceptable methods, techniques, and practices to determine physical condition and safety item.
- *Operational Check* - This is an operational test to determine whether a system or component is functioning properly in all aspects in conformance with minimum acceptable manufacture design specifications.
- *Functional Check* - This test may require the use of appropriate test equipment.

(e) The avionics and instrument systems inspections should be incorporated into the basic airframe program. The visual inspection of the avionics and instrument systems should be accomplished at intervals corresponding to the airframe inspection interval, i.e., inspect avionics and instrument equipment, wiring, connectors, bonding straps, circuit breakers, switches, etc. forward of the instrument panel at the same interval with controls and structural inspections in that area.

(f) Functional checks of the avionics and instrument systems, using appropriate ramp test equipment should be performed at intervals which should be a function of the aircraft operating environment. Example: One (1) year of manufacture design specification. The term "avionics" means aviation electronics and includes the following systems:

- Communications
- Navigation
- Electrical
- Instrument
- Lights
- Auto-Pilot/Flight Director System

(g) All required tests and checks recommended by the aircraft or equipment manufacturer must be addressed.

(h) Persons responsible for performing the work must be identified.

(i) The instructions, procedures, and standards must be clear and easily understood. They must identify the scope of each task and provide a detailed outline of each step that must be accomplished to perform the inspection and ensure that established standards are met.

(2) Evaluate the procedures for controlling life-limited parts. The program must contain provisions to ensure that records are current. Life-limits must be expressed in one of the following measures:

- Length of time in service
- Number of cycles
- Number of landings
- Calendar time
- A combination of the above measures

(3) Evaluate procedures for scheduling inspections.

(a) The program must list inspection intervals and describe personnel responsibilities for scheduling and performing inspections.

(b) Procedures must ensure that inspections are performed by properly certificated, qualified, trained, current, and authorized personnel. The program must identify, by title, the person responsible for ensuring inspection personnel meet FAA requirements.

(4) Ensure that engine overhaul periods correspond to the recommended overhaul intervals in the engine manufacturer's manuals and/or service bulletins.

(5) Evaluate procedures for reporting and correcting mechanical irregularities. The program must include detailed instructions, procedures, and the necessary forms and documents for the recording and repair of mechanical irregularities. These instructions, procedures, and forms may appear elsewhere in the company manual, but their location must be referenced in the Approved Aircraft Inspection Program.

(6) Ensure that the Approved Aircraft Inspection Program includes instructions on its use.

D. *Analyze Findings.* Determine if program changes are required. Before meeting with the operator/applicant, discuss initial findings with appropriate FAA personnel to determine the content of the briefing. Depending on the findings, it may be necessary to coordinate with the certification team, principal inspectors, regional specialists, or other FAA personnel.

E. *Debrief Operator/Applicant.* Discuss results of the evaluation, including any deficiencies noted during inspection.

7. TASK OUTCOMES

A. *File PTRS Transmittal Form*

B. Completion of this task will result in one of the following:

(1) If the Approved Aircraft Inspection Program/revision is not acceptable, advise the operator/applicant by letter that the program/revision is rejected. Give the reasons for the rejection. Return the program proposal and documentation to the operator/applicant.

(a) If this review is performed as a part of a certification, inform the applicant in the letter that the certificate will not be issued until the deficiencies are corrected. If necessary, advise the applicant to revise the Schedule of Events.

(b) The letter must also accomplish the following:

- Confirm all agreements made during the debriefing
- Identify the date the Approved Aircraft Inspection Program/revision was submitted
- Show the revision number and date, as applicable

- Identify and describe all deficiencies by chapter, section, page, etc.
- Reference each deficiency to the appropriate regulation
- Request a revised schedule of events, if necessary
- If a revision, remind operator not to implement the revision

(2) If the program or revision meets all regulatory requirements, accomplish the following:

(a) Ensure that the Approved Aircraft Inspection Program or revision has been fully coordinated between maintenance and avionics

(b) For a new or totally revised program, indicate "Approved and authorized for use on operations specifications dated _____" on the first page identifying the program. The approving Principal Maintenance and Avionics Inspector shall sign and date the document. The date of the document approval must be the same as the date the Approved Aircraft Inspection Program operations specifications are approved.

(c) Initial and date each page of the Approved Aircraft Inspection Program or revision, unless another control is used

(d) In the case of a revision to an approved program, issue amended operations specifications (see Vol. 2, Ch. 84). The reverse side of the amendment must identify and justify the changes to the program.

(e) Send the operator a letter accepting the Approved Aircraft Inspection Program. The letter must accomplish the following:

- Request that the operator acknowledge receipt of the operations specifications by signing and dating the original and copy, and forward the copy to the district office
- Confirm all information given during the debriefing
- Indicate the date the Approved Aircraft Inspection Program/revision was submitted
- Show the revision number and date, if applicable
- If a revision, indicate the number of approved pages
- Advise the operator that the revision may be implemented
- If a manual revision was submitted and is acceptable, advise the operator of acceptance
- If a manual revision was not submitted, remind the operator to revise the manual to incorporate the program/revision. Advise the operator to submit the manual change for acceptance.
- Enclose the stamped, dated, and initialed original Approved Aircraft Inspection Program
- Enclose the original and one copy of the approved operations specifications
- Enclose the accepted manual revision, if appropriate

(f) Send two copies of the new or amended operations specifications to the regional Airworthiness Branch

9. FUTURE ACTIVITIES

A. *Schedule of Events.* In the case of original certification, review the Schedule of Events to determine if a revised Schedule of Events is necessary.

B. *Procedures and Policies Manual.* Ensure that the Procedures and Policies Manual includes the Approved Aircraft Inspection Program/revision.

CHAPTER 89 SPECIAL FLIGHT PERMIT WITH CONTINUING AUTHORIZATION TO CONDUCT FERRY FLIGHTS

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: 3404

B. *Avionics*: 5404

3. OBJECTIVE. This chapter provides guidance for evaluating an application to amend operations specifications for a special flight permit to conduct ferry flights.

5. GENERAL

A. *Definition*: Damaged aircraft - An aircraft that has sustained physical damage or has inoperative/malfunctioning equipment.

B. *Issuance*. The authorizing statute, FAR § 21.197(c), does not automatically authorize the issuance of permits to all eligible operators. Therefore, an eligible operator's operations specifications will be used to authorize the permits and to ensure responsible utilization of the permit.

C. *Eligibility*

(1) The special flight permit is issued only to operators subject to the following:

- Subpart L of FAR Part 121
- Subpart I of FAR Part 127
- The sections of Subpart J of FAR Part 135 specified by FAR § 135.411(a)(2) or (b)

NOTE: Operators subject to FAR § 135.411(a)(1) are not eligible.

(2) Aircraft involved in an accident or incident may not be ferried prior to notifying the FAA accident coordinator.

(3) An Airworthiness Directive (AD) may dictate that safety demands further limitations. The AD may limit ferry flights under FAR § 21.197 to those specifically approved by the FAA.

(4) FAR § 39.3 provides that no person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD. Therefore, if an AD requires compliance before further flight, with no provision for the issuance of special flight permit, the operation of the specified aircraft would not be permitted.

D. *Manual Review*

(1) The operator may consider certain conditions and limitations necessary to facilitate the inspection and operation of an aircraft. These conditions should be included in the operator's manual.

(2) When reviewing manual materials, the following items should be considered:

(a) Technical data

(b) Operational equipment necessary for safe operation of the aircraft

(c) Aircraft weight limits

(d) Fuel distribution limits

(e) Center of gravity limits

(f) Aircraft maneuver limitations

(g) Flight equipment usage limitations, e.g., autopilot, etc.

(h) Airspeed limits

(i) Meteorological limits, including:

- Conditions to be avoided
- Required inspections when these conditions are encountered
- Weather minimums

E. *Authorization for Ferry Flights with one Engine Inoperative.* FAR Part 121/135.411(a)(2) operators may conduct a ferry flight of a four-engine airplane or a turbine engine-powered airplane equipped with three engines, with one engine inoperative, to a base for the purpose of repairing that engine. The following restrictions will apply:

(1) The particular airplane model must have had a test-flight conducted with an engine inoperative in accordance with performance data contained in the applicable airplane flight manual

(2) The approved airplane flight manual must contain the performance data, in accordance with FAR § 91.611

(3) The operator's manual must contain operating procedures for the safe operation of the airplane, including the specific requirements listed in FAR § 91.611

(4) The operator may not depart an airport where the initial climb-out is in thickly-populated areas or the weather conditions at the takeoff or destination airport are less than those required for Visual Flight Rules (VFR) flight

(5) Only required flight crewmembers can be carried aboard during this ferry flight

(6) The required flight crewmembers must be thoroughly familiar with the company's operating procedures and the airplane Approved Flight Manual for one-engine-inoperative ferry flights.

7. APPLICATIONS INVOLVING FOREIGN AIR TRANSPORTATION. Special Airworthiness Certificate, FAA Form 8130-7, prohibits an aircraft to fly "over any foreign country without the special permission of that country." This requirement was placed on FAA Form 8130-7 because the form is used under FAR § 21.197(a) and(b) for other purposes beyond flight to a base for repairs. When issued for one of these purposes, the United States is obligated to ensure U.S.-registered aircraft have standard airworthiness certificates. Therefore, the aircraft cannot be flown over any foreign country without the special permission of that country.

A. The only exception recognized in ICAO Annex 8 is the temporary loss of airworthiness due to damage to the aircraft. In this case, damaged aircraft refers to inoperative or malfunctioning equipment as well as physical damage to the aircraft. In such an event, Part II, Section 6.2.2, recognizes that the country of registry may allow the aircraft to be ferried to a where it can be restored to an airworthy condition.

B. Since Annex 8 provides for this flight situation, a FAR Part 121/135 certificate holder engaged in foreign air transportation is not required to obtain permission to fly over, into, or out of foreign countries when exercising the provision of a special flight permit with continuing authorization to conduct ferry flights for purposes of repair.

NOTE: This authorization does not extend to situations specified in FAR § 21.197, which involve flying an undamaged aircraft to a base where alterations will be performed.

9. DISPLAY OF PERMIT. The operator must display in the aircraft the current airworthiness certificate, including a special flight permit or authorization. The operator must carry either the operations specifications or portions of the certificate holder manual containing a restatement of the permit with those conditions and limitations imposed by the Administrator.

11. FACSIMILE (FAX) TRANSMISSION OF SPECIAL FLIGHT PERMITS. At the request of the applicant, a special flight permit may be transmitted via FAX equipment using the sample format of the telegraphic special flight permit described in FAA Order 8130.2, Airworthiness Certification of Aircraft and Related Approvals, as amended.

A. The permit must include any additional operating limitations that may be required and must be displayed in the aircraft in accordance with FAR § 91.203 prior to conducting the special flight.

B. Sometimes the time normally required for postal delivery of FAA Form 8130-7, Special Airworthiness Certificate, may be too long. The transmission of a special flight permit via FAX allows an aircraft to be moved when the flight cannot be delayed.

C. FAX-transmitted special flight permits are to be used only for the following purposes:

- Flying the aircraft to a base where repairs, alteration, or maintenance are to be performed or to a point of storage
- Evacuating aircraft from areas of impending danger

NOTE: FAA Form 8130-7, Special Airworthiness Certificate, must not be transmitted by FAX.

D. FAA offices having FAX equipment capable of sending messages collect will advise the applicant that payment for the FAX special flight permit must be made at the receiving location. If the FAX equipment at the FAA office is not capable of sending messages collect, the applicant may pick up the completed and signed FAX special permit at the FAA office and transmit it by another FAX machine at the applicant's discretion.

(1) The cost of a 2-minute telephone call for FAX transmission may be considered part of the office's routine telephone business.

(2) Each office should use the FAX transmission method that is most cost-effective and advantageous for that office.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Parts 21, 39, 91, 121, and 135
- Successful completion of the Airworthiness Inspectors Indoctrination Course or equivalent

B. *Coordination.* This task requires coordination between the assigned principal inspectors.

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- FAR §§ 21.197, 21.199, 39.3, 91.203, 91.611, and 135.411(a)(2)
- International Civil Aviation Organization (ICAO) Annex 8

B. *Forms*

- FAA Form 8400-8, Operations Specifications

C. *Job Aids*

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- International Civil Aviation Organization (ICAO) Annex 8

B. *Forms*

- FAA Form 8400-8, Operations Specifications

C. *Job Aids*

- Performance information
- Operating procedures

(3) The operator's manual must include the following:

- A limitation that the operating weight on any ferry flight must be the minimum necessary with the necessary reserve fuel load
- A limitation that takeoffs must be made from dry runways unless, based on a showing of actual runway operating takeoff techniques on wet runways with one engine inoperative, takeoffs with full controllability from wet runways have been approved for the specific model aircraft and included in the approved Airplane Flight Manual
- Procedures for operations from airports in which the runways may require a takeoff or approach over populated areas
- Inspection procedures for determining the operating conditions of the operative engines
- A restriction that no person may takeoff from an airport in which the initial climb is over thickly-populated areas or weather conditions at the takeoff and destination airport are less than those required for Visual Flight Rules (VFR) flight
- Procedures that ensure carrying only essential flight crewmembers aboard the airplane during the ferry flight
- Procedures that ensure flight crewmembers are thoroughly familiar with the operator's operating procedures and the approved Airplane Flight Manual for one engine-inoperative ferry flights

D. *Notify the FAA Accident Coordinator Prior to any Authorization of an Aircraft Involved in an Accident or Incident*

7. TASK OUTCOMES

A. *File PTRS Transmittal Form*

B. Successful completion of this task will result in issuance of operations specifications paragraph D84.

C. *Document Task.* File all supporting paperwork in the operator's office file.

9. FUTURE ACTIVITIES. Normal surveillance.

CHAPTER 92 EVALUATE FAR § 135.411(a)(1) OPERATOR'S MAINTENANCE RECORDS

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: 3634

B. *Avionics*: 5634

3. OBJECTIVE. This chapter provides guidance to the operator/applicant for creating, preserving, and retrieving the maintenance records required by the Federal Aviation Regulations and ensures that these procedures are being followed.

5. GENERAL

A. *Definitions*

(1) *Life-limited Part*: A part that has an established safe life-limit established by FAA Engineering and the Manufacturer. The part must be removed from service at its specified time or cycles in service. Life-limits are always listed or referenced on the type certificate data sheets and can be adjusted only by FAA engineering.

(2) *Approved Data*: Drawings, methods, techniques, and materials used to accomplish major repair or alterations that are approved by the FAA Administrator (Airworthiness Inspectors, FAA Engineering and Manufacturing, or Designated Engineering Representatives (DERs)).

B. To comply with the maintenance recording requirements of the Federal Aviation Regulations, the operator/applicant's maintenance manual must identify and contain procedures to complete all applicable documents used by the operator/applicant.

C. FAR § 91.173 has maintenance record keeping requirements for the following:

(1) *Airworthiness Directives (ADs).* FAR Part 91 requires the current status of applicable Airworthiness Directives (ADs), including the date and method of compliance, recurring AD actions, and the time and date when the next action is required.

(2) *Total Time-in-Service.* FAR Part 91 has requirements to maintain total time-in-service records for airframe, engines, propellers, and rotors.

D. The manual should contain procedures for the record keeping system. The procedures should address the following requirements of the regulations:

(1) *Total Time-in-Service.* This record may consist of aircraft maintenance record pages, separate cards or pages, a computer list, or other methods described in the operator/applicant's manual. (Ref. FAR § 91.173(a)(2)(i))

(2) *Status of Life-limited Parts.* Life-limited parts, e.g., components of the airframe, engine, propellers, rotors, and appliances, are identified to be removed from service when a specific time limit or number of cycles has been reached. (Ref. FAR § 91.173(a)(2)(ii))

(a) The current status of the part is a record indicating the operating time limits, total number of hours or accumulated cycles, and the number of hours or cycles remaining before the required retirement time of the component is reached. This record also must include any modification of the part in accordance with ADs, service bulletins, or product improvements by the manufacturer or operator/applicant.

(b) The following are not considered a current status record:

- Work orders

- Maintenance installation records
- Purchase requests
- Sales receipts
- Manufacturers documentation of original certification
- Other historical data

(c) Whenever the current status of life-limited parts records cannot be established or has not been maintained (e.g., a break in current status) and the historical records are not available, the airworthiness of that product cannot be determined and it must be removed from service.

(d) Serious problems have surfaced during national inspections and routine inspections when the current status of the life-limited parts record was not complete and there was no historical record to reestablish the current status.

(3) *Overhaul List.* The operator/applicant is required to develop manual procedures complying with FAR § 91.173(a)(2)(iii) for recording the time since the last overhaul of all items installed on the aircraft required to be overhauled on a specified time basis. The items requiring overhaul are listed either in operations specifications or in a document referenced in the operations specifications.

(a) The overhaul list includes the actual time or cycles in service since the last overhaul of all items installed on the aircraft. If continuity cannot be established between overhaul periods, the last overhaul records must be reviewed to reestablish currency of the overhaul list.

(b) The overhaul list refers to the time since last overhaul of an item and must not be confused with an overhaul record, which requires a description of the work and identification of the person who performed and/or approved the work.

(4) A record must be made whenever an item of aircraft equipment is overhauled. This overhaul record must describe the work performed. The inspector must be cautioned that a return to service tag does not constitute an overhaul record. If a tag is used for approval for return to service, it must reference the overhaul. The operator/applicant must have this record or be able to make it available to the Administrator. The overhaul records shall be retained until the work is superseded by work of equal scope and detail.

(5) *Current Aircraft Inspection Status.* The operator/applicant is required by FAR § 91.173(a)(2)(iv) to retain a record identifying the current inspection status of each aircraft.

(a) The record must show the time-in-service since the last inspection required by the inspection program under which the aircraft and its appliances are maintained.

(b) Inspection work packages or routine and nonroutine items generated while performing any part of the inspection program must be retained for one year after the work is performed or until the work is repeated or superseded by other work.

(6) *Current AD Status.* The operator/applicant is required by FAR § 91.173(a)(2)(v) to keep a record showing the current status of applicable ADs, including the method of compliance. This record must include the following:

- List of ADs applicable to the aircraft
- The date and time-in-service or cycles, as applicable
- Method of compliance
- The time-in-service or cycles and/or date when the next action is required (if it is a recurring AD)

(a) An acceptable method of compliance may be one of the following:

- Reference to a particular portion of the AD
- Reference to manufacturer's service bulletin, if the bulletin is referenced in the AD

- Reference to any other document generated by the operator/applicant that shows compliance with the AD, such as an Engineering Order or Engineering Authorization.

(b) When an Engineering Order/Engineering Authorization is used, the details must be retained by the operator/applicant. If the Engineering Order/Engineering Authorization also contains the accomplishment instructions and sign-off, it must be retained indefinitely.

(c) An operator/applicant may apply for alternate methods of compliance for accomplishing ADs. Alternate methods of compliance must be approved by the appropriate FAA Engineering Directorate and apply only to the operator/applicant making the application. If an aircraft is transferred to another owner, the alternate method of compliance continues to apply to that aircraft.

(d) The operator/applicant's manual must have procedures to comply with new and emergency ADs to ensure that the action is completed within the given time limits. This must include procedures for notifying the responsible individuals to implement the required action during other than routine duty hours.

(e) In most cases, the document that contains the current status of ADs and method of compliance is different from the record of AD accomplishment.

- The document is a permanent, ongoing historical record of all AD accomplishment and must be retained with the aircraft indefinitely

- The record of accomplishment of an AD must be retained until the work is superseded or repeated or for one year after the work is performed

(f) Serious problems have surfaced during national and routine inspections when the applicable AD current status and method of compliance was not complete and there was no historical record to reestablish them. When current status and method of AD compliance cannot be determined from the document, the operator/applicant must verify this compliance.

(7) *Major Alteration and Major Repair.* FAR § 91.173(a)(2)(vi) operator/applicants are required to retain records of each major alteration to the following:

- Airframe
- Engine
- Propeller
- Rotor
- Appliance

(a) *Major Alterations.* Major alterations should be on a list and have the date of alteration and a brief description of that alteration.

(b) *Major Repairs.* The FAR § 91.173(a)(1) major repair list should have the date and brief description of the repair.

(c) All major repairs and major alterations must be accomplished by using FAA approved data. Previous inspections have identified lack of approved data to support major repairs and major alterations.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Part 135
- Working experience with operator recordkeeping systems
- Successful completion of the Airworthiness Inspectors Indoctrination Course or equivalent

B. *Coordination.* This task may require local, regional, and/or headquarters coordination.

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- FAR Parts 43 and 91
- Operator maintenance records

B. *Forms.* None.

C. *Job Aids.* None.

5. PROCEDURES

A. *Review Office Files.* Review the historical data of the operator's record keeping system. This includes the PTRS history of past inspections, Enforcement Information System (EIS), and other office files.

B. *Review the Operator's Maintenance Records.* Analyze the operator/applicant's record keeping system. Determine if the Federal Aviation Regulations record keeping requirements are met. The record keeping should provide an acceptable method for creating, preserving and retrieving required records. All records must contain the following:

- Description of the work performed (or reference to data acceptable to the Administrator)
- The date of completion of the work performed
- The signature and certificate number of the person approving the aircraft for return to service

(1) *Airworthiness Records.* Ensure that the records are retained for one year after the work is performed or until repeated or superseded by other work.

(2) *Total Time-In-Service*

(a) Determine the method of recording total time-in-service of the airframe, engine, propeller, and rotor. This record must show the current time-in-service in hours.

(b) Determine if this record is retained until the aircraft is sold and is transferred with the aircraft upon sale.

(3) *Status of Life-limited Parts*

(a) Ensure that the operator is tracking the current status of life-limited parts for each airframe, engine, propeller, rotor, and appliance.

(b) Determine if this record is retained until the aircraft is sold and is transferred with the aircraft upon sale.

(4) *Time since last overhaul of all items required to be overhauled.* This document must accompany the aircraft when transferred.

(5) *Overhaul Records.* Ensure that the manual describes how the operator documents the last complete overhaul of each engine, propeller, and rotor. These records must be retained until the work is superseded by work of equivalent scope and detail. The overhaul record may include:

- Disassembly data
- Dimensional check data

- Replacement parts list
- Repair data
- Reassembly/test data
- Reference to data including overhaul specifications

(6) *Current Aircraft Inspection Status*

(a) Determine how the operator records the time-in-service since the last inspection.

(b) Determine if procedures ensure that this record is retained until the aircraft is sold and is transferred with the aircraft upon sale.

(7) *Airworthiness Directive (AD) Compliance.* Determine how the operator complies with record keeping requirements of the ADs, including emergency ADs. Ensure that there is a record containing the following items:

(a) *Current Status*

- A list of all ADs applicable to the aircraft
- Date and time of compliance
- Time and/or date of next required action (if recurring AD)

(b) *Method of Compliance.* This includes either a record of the work performed or reference to the applicable section of the AD.

(c) Determine if this record is retained until the aircraft is sold and is transferred with the aircraft upon sale.

(8) *Major Alteration Records.* Determine how the operator prepares and maintains a list of current major alterations to each airframe, engine, propeller, rotor, and appliance. The list should include:

- Date of alteration
- Brief description of the alteration

(9) *Major Repair Records*

(a) Determine how the operator prepares and maintains a list of current major repairs to each airframe, engine, propeller, rotor, and appliance. The list should include:

- Date of repair
- Brief description of the repair

(b) Determine if this record is retained until the aircraft is sold and is transferred with the aircraft upon sale.

C. *Inspect the Operator Record System*

(1) Identify the documents/forms that are used for ensuring that the following are accomplished:

- Total time-in-service
- Status of life-limited parts
- Time since last overhaul document
- Overhaul records
- Current aircraft inspection status
- Current status of applicable ADs
- Major alteration and repair records

(2) Inspect the records. During the inspection, document and photocopy any confusing areas, obvious omissions or apparent discrepancies.

(a) Compare the records with the actual accomplishment of the maintenance.

(b) Obtain and review the maintenance logs to determine the scheduled inspections and non-routine maintenance.

(c) Review maintenance records to ensure that:

- Flight discrepancies were entered at the end of each flight
- Corrective action was related to the discrepancy
- Corrective action and sign-off are entered into the maintenance record
- Repetitive discrepancies are handled properly
- Deferred maintenance as authorized by the Minimum Equipment List (MEL) is deferred according to the operator's Minimum Equipment List and instructions

(3) Select or obtain work packages for scheduled inspections and ensure that scheduled inspections are properly signed off.

(a) Ensure that non-routine items generated were properly signed off.

(b) Determine if repairs were categorized correctly (major or minor) and if approved data was used for major repairs.

(4) Compare the actual record of accomplishment with the total time/cycles in-service record for the airframe, engine, propeller and rotor.

(5) Select and obtain a total time/cycles in-service record for a sample number of aircraft to ensure that cumulative flight times/cycles are added to the record.

(6) Make a spot check of the cumulative total time/cycle in-service against the flight logs to ensure that daily entries correspond to the flight log.

(7) If the operator maintains a hand-written maintenance record for engines, compare the record entries to the aircraft flight log entries for accuracy and to detect transposition of flight time/cycles in service, numbers, etc.

(8) Compare the manual procedures for life-limited parts with the actual recording of the current status of life-limited parts.

(9) Select a random sample of records and ensure that:

(a) All life-limited parts described on type certificate data sheets or a manual referenced in the type certificate data sheets are noted.

(b) Current status of each part is provided, to include:

- Total operating hours (including calendar time)/cycles accumulated
- Life-limit (total service life)
- Remaining time/cycles
- Modifications

(c) Ensure that:

- Time/cycles limits on the operator list are the same as those on the type certificate data sheets
- Life-limits have not been exceeded

(d) Select a sample of life-limited items that have been installed within the last 12 months and review records to ensure that life-limited time was carried forward from the previous service record.

(e) If overhauled, ensure that the overhaul record is available.

(f) Ensure that the life-limit of an item has not been changed as a result of the overhaul.

(10) Compare the overhaul list with the actual record.

(11) Identify items in the operator maintenance program that have overhaul requirements, if applicable.

(12) Ensure that all items identified are on the current list.

(13) Ensure that the overhaul list contains the time/cycles since last overhaul.

(14) Ensure that the items on the list have not exceeded their specified overhaul time/cycle limits.

(15) Select a random sample of items from the overhaul list to:

(a) Determine if overhaul records are available for those items selected

(b) Ensure that the records contain a description of the overhaul, and that the item was overhauled according to the overhaul specifications by a qualified and authorized person

(c) Ensure the component was approved for return to service by an authorized person

(16) Review the removal/installation records of overhauled components to determine if the overhaul was accomplished within the authorized time limits. Current regulations require that these records be maintained for only one year.

(a) Compare the current aircraft inspection status with the record available.

(b) Determine whether daily flight hours/cycles are recorded to obtain the current inspection status.

(c) Take a random sample of aircraft inspection records and review the last two "C" checks (or equivalent) to ensure that scheduled inspections times/cycles were not exceeded (overflown).

(17) Compare the compliance with ADs with the current status of AD document.

(a) Contact the operator responsible for AD records and request a random sample of aircraft AD compliance record.

(b) Ensure that the document contains all applicable ADs for the sampled aircraft.

(c) Ensure that the AD requirements were accomplished within the effective times of the AD, with special emphasis on recurring ADs.

(d) Ensure that the AD document contains current status and method of compliance. The current status must include these three items:

- A list of all ADs applicable to the aircraft
- Date and time of compliance
- Time and/or date of next required action (if recurring AD)

(e) Ensure that the list is being retained indefinitely.

(f) Identify those ADs with alternate methods of compliance, and ensure that the operator has obtained prior approval for that alternate method.

(g) Select from the current AD compliance document a number of ADs accomplished within the last 12 months and ensure that the appropriate accomplishment records are available. Review the accomplishment record to ensure the following:

- The method of compliance is as specified in the AD
- The date of compliance is identical to the date on the current status list
- The mechanic is certificated to accomplish the work
- The accomplishment was properly signed off

(18) Compare the major alteration and repair records with the actual records.

(a) *Major Alterations*

- Request a list of all major alterations for a random sample of aircraft

- Ensure that the list contains the date of accomplishment and a brief description of the alteration

- Select a random sample of major alterations accomplished within the last 12 months and ensure that the respective maintenance records show that alterations were accomplished according to approved data

(b) *Major Repairs*

- Request several records of major repairs

- Ensure that the records contain the date of accomplishment and a brief description of the repair

- Select a random sample of major repairs accomplished within the last 12 months and ensure that the respective maintenance records show that repairs were accomplished according to approved data

- When major repairs or alterations are identified and are not recorded, request the actual maintenance accomplishment record from the operator/applicant

D. *Analyze the Inspection Results*

(1) Determine the effectiveness of the maintenance record keeping system. Ineffective record keeping systems may be the result of:

- Inadequate/nonexistent procedures

- Not following manual procedures

- Ineffective organization

- Lack of qualified personnel

- Poor scheduling of AD compliance, overhaul requirements, inspections, etc.

- Improper training

(2) *Compile Deficiencies*

(a) Compile all findings that are contrary to the regulations.

(b) Compile all findings that are in noncompliance with the Federal Aviation Regulations but are producing satisfactory results.

(3) After compiling all findings and before the operator debriefing, consult with the appropriate FAA supervisory personnel to determine which (if any) findings require enforcement actions.

(4) If no findings are made, no further action is required.

E. *Meet with the Operator*

(1) Discuss the following items:

- All discrepancies discovered during the inspection

- Possible corrective action

- Possible enforcement actions

(2) Inform the operator that official written notification of findings may follow.

7. TASK OUTCOMES

A. *File PTRS Transmittal Form*

B. Completion of this task may result in the following:

- Formal letter to operator confirming results of inspection.

- Enforcement action according to Order 2150.3, if applicable

C. *Document Task.* File record of inspection in operator's file in district office according to office procedures.

9. FUTURE ACTIVITIES. Normal surveillance.

CHAPTER 95 EVALUATE FAR PART 121/135 OPERATOR/APPLICANTS FOR PARTICIPATION IN "COORDINATING AGENCIES FOR SUPPLIER'S EVALUATION" (C.A.S.E.)

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance:* (See Task Outcomes)

B. *Avionics*: (See Task Outcomes)

3. OBJECTIVE. This chapter provides guidance to be used in evaluating and approving a FAR Part 121/135 operator for participation in "Coordinating Agencies for Supplier's Evaluation" (C.A.S.E.).

5. GENERAL

A. *Definitions.* These definitions are those as defined in the C.A.S.E. Air Carrier Section Policies and Procedures manual, and may not necessarily be the same as used in everyday FAA/handbook usage.

(1) *C.A.S.E. Data Center*: The data collection and distribution center responsible for maintaining and publishing the C.A.S.E. Register.

(2) *C.A.S.E. Register*: The list of suppliers/vendors who have been audited by a C.A.S.E. authorized auditor and found to be in compliance with applicable C.A.S.E. standards.

(3) *Supplier*: An organization that provides parts, materials, or supplies for sale.

(4) *Vendor*: An organization that provides overhaul, repair, maintenance, and/or servicing of aircraft, components, or appliances.

(5) *Fuel Auditor*: An auditor authorized to conduct C.A.S.E. audits of suppliers/vendors of fuel storage facilities, fueling services, and related equipment.

(6) *Maintenance Auditor*: An auditor authorized to conduct C.A.S.E. audits of suppliers/vendors of maintenance, repair, overhaul, or servicing actions (except fueling) of aircraft parts and components.

(7) *Special Process Certification/Qualification*: A determination, resulting from an evaluation, that a supplier/vendor has the capability to perform a given process.

(8) *Supplier Evaluation/Vendor Audit*: An on-site evaluation and assessment of a vendor's or supplier's quality systems to verify compliance with the applicable C.A.S.E. standards.

(9) *C.A.S.E. Standard 1-A*: Provides minimum requirements to be met by a repair/overhaul vendor's quality control program.

(10) *C.A.S.E. Standard 2-A*: Provides minimum requirements for an aircraft jet fuel vendor's quality control program. This standard encompasses storage facilities and into plane servicing.

(11) *C.A.S.E. Standard 3-A*: Provides minimum requirements for a surplus parts dealer's quality control program.

(12) *C.A.S.E. Standard 4-A*: Provides minimum standards for an oxygen supplier/vendor's quality control program.

(13) *C.A.S.E. Standard 5-A*: Provides minimum standards for a new aircraft parts distributer's quality control program.

B. *Purpose*

(1) The C.A.S.E. program was originally approved by the Aircraft Maintenance Division, AFS-300, in 1983 on a

limited scale and was comprised of only a few member airlines. This program was designed to satisfy the requirements of FAR §§ 121.373 and 135.431.

(2) The purpose of C.A.S.E. is to conduct audits of various suppliers/vendors through a cooperative effort of the member airlines. These audits are a method for the analysis, control, and acceptability of those vendors supplying parts and maintenance services to member airlines.

C. *The Current C.A.S.E. Program.* The initial specifications developed by C.A.S.E. were aimed at audits of repair stations that provide member airlines with components/parts that have been restored, overhauled, or otherwise repaired. The C.A.S.E. organization and its program have since been expanded in membership and scope, to include the suppliers of the following:

- Used and salvaged equipment
- Airline surplus parts/components
- New aircraft parts
- Fuel and fueling services
- Oxygen

NOTE: The C.A.S.E. organization will make periodic reviews of the C.A.S.E. program needs and capabilities to add new categories of suppliers and vendors.

D. An audit is a sampling examination and assessment of a vendor's or supplier's quality control system. This assessment is made by an on-site review. The C.A.S.E. audit concept revolves around two basic premises:

- There must be mutually agreed upon standards of performance against which suppliers and vendors are gauged
- Members may utilize audits performed by other members

E. *C.A.S.E. Program Standards*

(1) There is an inherent and healthy concern that one airline's auditor may not be as qualified or as proficient as another airline would prefer. As a result, the association began a strict training and certification program. This program stipulates the following:

(a) Specific minimum requirements in terms of auditor background and experience required to be recognized by the membership

(b) That each auditor trainee must pass a written test, oral examination, and a practical demonstration of their skills and capabilities as an auditor. All test results will be reviewed for acceptance by the Audit and Compliance Committee.

(c) That only auditors authorized through the C.A.S.E. Air Carrier Auditor Authorization Program are allowed to submit supplier/vendor change information to the data base

(2) The C.A.S.E. organization publishes a policy and procedures manual that outlines the program in its entirety, including methods for selecting and training auditors, and evaluation standards for evaluating the vendor/supplier.

NOTE: Although the C.A.S.E. audit standards are membership developed, they must reflect all FAA regulatory requirements. Any policy changes to this manual are subject to acceptance by AFS-300.

(3) Members voluntarily exchange the names of vendors/suppliers whose quality control systems comply with C.A.S.E. program standards as determined by an on-site technical audit. Those vendors and suppliers are listed in a register which is published and updated periodically.

NOTE: C.A.S.E. members will provide FAA representatives access to their C.A.S.E. Register of vendors and suppliers.

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[CHAPTERS 96 THROUGH 100 RESERVED]

CHAPTER 185 INTRODUCTION TO FAR PART 147

1. OBJECTIVE. FAR Part 147 provides the guidance for issuing aviation maintenance technician school certificates and associated ratings. FAR Part 147 also provides the general operating rules for the holders of those certificates and ratings.

3. CERTIFICATION. Certification teams are used to conduct an original certification, to approve an added rating, and to approve a curriculum change affecting the facilities, equipment, materials, or tools of an existing school.

5. USE OF THE AVIATION MAINTENANCE TECHNICIAN SCHOOL NORM. This guide is used for the FAR Part 147 surveillance task, Vol. 3, Ch. 105, Inspect FAR Part 147 Aviation Maintenance Technician School.

A. *School Norms.* When an individual school norm drops below the national norm in excess of the requirements of FAR § 147.38(a), an asterisk (*) will appear opposite the school norm on the AC Form 8080-08. The responsible region/district office may obtain more detailed performance information to assist in determining problem areas by requesting AC Form 8080-08 and/or AC Form 8080-13 from AVN-140. The report data may be shared freely with the school to which it refers.

B. *Aviation Maintenance Technician School Norm vs. National Passing Norms, AC Form 8080-08, and Associated Reports in the Series.* This series of reports provides information to the school and the responsible FAA region and district offices about the test performance of school graduates. The reports are used to monitor school performance and to determine whether schools meet the quality of instruction provisions of FAR § 147.38(a). The reports are distributed quarterly following the quarter in which the test activity occurs. On-request reports may be sought at any time. The reports are distributed for all schools on the file for the months of January and July. The report data may be shared freely with the school to which it refers. Requests for report information from persons other than those of the subject school should be referred to AVN-140.

(1) AC Form 8080-08, Aviation Maintenance Technician School Norms vs. National Passing Norms is the basic report of the series. It contains a record of test activity and performance of graduates of the subject school who apply for a mechanic written test for the first time within 60 days after graduation. It is produced quarterly and distributed to each **school** that has mechanic test activity during the report quarter. The report is also available on request to the responsible FAA regional or district office.

(2) AC Form 8080-10, Aviation Maintenance Technician School Norms vs. National Passing Norms contains a summary of information for all schools in a region having written test activity during the report quarter. It is produced quarterly and distributed to the responsible **region**. AC Form 8080-10 is a summary report intended to conserve region/district office manpower in monitoring school activity and performance.

(3) AC Form 8080-13, Aviation Mechanic Test Applicant Listing contains a record by applicant name of the test performance for graduates from a subject school for a time period specified by the requestor. It is produced by the responsible FAA **region** or **district office** and is distributed to the requesting office.

(4) "Non-school" reports are quarterly reports arranged by the region in which the testing occurred, available by request from AVN-140 of the responsible region. These reports are made for the following:

- Applicants who graduate from a certificated school, but who take the mechanic tests for the first time more than 60 days after graduation

- Applicants who qualify for testing through actual experience and are not graduates of a certificated school

C. *How to Read the Aeronautical Center Report in the 8080 Series*

(1) *The Heading.* The first horizontal line at the top of all the forms lists the name of the report, the quarter test activity, the AC Form number, and the date of the report. The second horizontal line lists the school identifier, the name of the school, the region, and the district office identifier.

(2) *The Main Body.* The report is divided into the two following AREAS:

(a) *AREA 1 - Two Year (24 month) Accumulative.* The two year accumulative scores for the total of the school's applicants, the norm, the total number of national applicants, and then the national norm comprise the last four vertical columns on the right hand side of the report.

(b) *AREA 2 - Written Test Subject Area Norm Vs. National Subject Area Norm.* This report compares the school's 12 month subject norm with the national 12 month subject norm directly underneath it. Below the overall 12 month comparison, subject norms are broken down by month comparing the school's norm against the national norm, respectively. The norms are read horizontally across the form. The subject areas are read horizontally by codes A-T at the heading. Subject area is abbreviated and read below all the scores.

FIGURE 185-1 READ VALUES FOR AC FORM 8080-08

1. AREA 1 Report. CURRENT MONTH.

Vertical Column 1. *TYPE TEST.* The types are: GENERAL, AIRFRAME 1 then 2, POWERPLANT 1 then 2

Vertical Column 2. *NO. APPLS.* Shows total number of applicants taking the original test only. (Partial completions or retakes are not included.)

Vertical Column 3. *NO. APPLS. PASS.* Total number of applicants passing the test or a section of the test.

Vertical Column 4. *PCT. APPLS. PASS.* The percent of applicants passing the test or a section of the test.

Vertical Column 5. *AVG. GRADE.* The average grade for the test or sections of the test.

2. AREA 2 Report. TWO-YEAR ACCUMULATIVE.

Vertical Column 6. *APPLS.* The total number of applicants from a school taking the test for the first time.

Vertical Column 7. *NORM.* The school passing norm, representing the percentage of all first time applicants within 60 days after graduation from the certificated school and within the 24 month period of the report.

Vertical Column 8. *NAT'L APPL.* The total number of applicants from all schools taking the test for the first time within the 24-month period of the report.

Vertical Column 9. *NAT'L APPL.* The national passing norm, representing the percentage of all applicants from all the schools passing the test on the first attempt within 60 days after graduation and within the 24-month period of the report.

HOW TO INTERPRET: If Column 7 is flagged by an asterisk (*) it notes that the figure is below the norm limits set by FAR Section 147.38(a). It takes into account the school size and the allowable tolerance.

3. AREA 3 Report. ONE-YEAR ACCUMULATIVE DATA, MONTHLY DATA, IDENTIFICATION OF TECHNICAL AREAS.

Horizontal Line 7. Code letters A-T. The code letters are the same as those used in the appropriate "stuffer sheets" provided with written test grade reports [AC Form 8080-2-15 General] [AC Form 8080-2-16 Airframe] [AC Form 8080-2-17 Powerplant]

Horizontal Line 8. *SUB NORM 1-YR.* Accumulative school applicant norm for each subject area for the school shown in AREA 1 for the 12-month period.

Horizontal Line 9. *NAT NORM. 1-YR.* Displays the accumulative applicant norm for each subject area for all schools for the 12-month period.

FIGURE 185-1 READ VALUES FOR AC FORM 8080-08 (Continued)

Horizontal Lines 11 - End. This area of the report provides *monthly* data by dual horizontal line for each of the 12 months of the year. *SUB JAN* and *NAT JAN* (through December) show the comparative scores between the school and the nation.

HOW TO INTERPRET: The number in the SUB line should be smaller than the number in the NAT line. The presence of an asterisk preceding the number in the SUB line indicates that that subject area is a problem area for those applicants of the school the report is published for.

CHAPTER 186 CERTIFICATE FAR PART 147 AVIATION MAINTENANCE TECHNICIAN SCHOOL

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: 3230

B. *Avionics*: 5230

3. OBJECTIVE. This chapter provides guidance for certificating an Aviation Maintenance Technician School under FAR Part 147.

5. GENERAL

A. *Certification Process.* The certification process provides for interaction between the applicant and the FAA from initial inquiry to certificate issuance. It ensures that programs, systems, and methods of compliance are thoroughly reviewed, evaluated, and tested. The certification process consists of the following five phases:

- Preapplication Phase
- Formal Application Phase
- Document Compliance Phase
- Demonstration and Inspection Phase
- Certification Phase

B. *Authority.* Sections 313(a), 314, 601, and 607 of the Federal Aviation Act of 1958, as amended, and FAR Part 147 provide regulatory authority for certificating Aviation Maintenance Technician Schools.

C. *Aviation Safety Inspector's Responsibility.* Aviation Safety Inspectors (ASIs) should not become involved in determining the market need for the school, the selection of resource people, or materials. ASIs must remain objective in evaluating the applicant's facilities, personnel, and curriculum content. The ASI may participate as an advisor, but not as a **voting** member on school advisory boards or committees.

7. PREAPPLICATION PHASE

A. *Initial Inquiry.* Upon initial contact from an applicant the district office manager or unit supervisor will advise the applicant of the necessity for a preapplication meeting. The ASI also directs the applicant to which regulations must be met and where copies of the regulations may be obtained. The applicant is given a blank Preapplication Statement of Intent (PASI), FAA Form 8400-6 and advised where to send it. The ASI does not schedule a preapplication meeting until the applicant has reviewed these requirements and has completed the application.

B. *The PASI*

(1) The submission of a PASI expresses an intent by the applicant to initiate certification. It also allows the FAA to plan activities and commit resources. Therefore, a potential applicant should submit a copy of the PASI only after reviewing the appropriate regulations and advisory material. The applicant should consider the personnel, facility, equipment, and paperwork requirements for certification and operation.

(2) The district office manager should use the PASI to evaluate the complexity of the proposed operation and to ensure that trained and experienced ASIs are available to certificate the applicant. The district office should also use the PASI to initiate its own files on the potential applicant and to obtain a precertification number.

(3) The regional office may use the PASI to assess the district office workload and forecast staffing needs.

(4) AVN-120 maintains and assigns certificate and precertification numbers upon request. Numbers are based on the type of operation proposed, as shown on the PASI.

C. *Establish Certification Team.* Upon receipt of a completed PASI, the district office notifies the regional office. The district office manager or the airworthiness unit supervisor establishes a team of ASIs to conduct the certification. The team will consist of at least one Maintenance ASI from the certificating district office and one regional representative. One team member will be designated as the Certification Project Manager (CPM). Regional and/or headquarters participants should not serve as the Certification Project Manager.

(1) When requested by the regional office, AFS-300 will determine if headquarters' participation is appropriate and, within five working days of receipt of the PASI, will notify the regional office of the determination and the name(s) of any AFS-300 participants.

(2) Regional and headquarters representatives may serve as active members of the team or as advisors. These representatives should attend both the preapplication and the formal application meetings. They should be present also during facility inspections.

D. *Preapplication Meeting.* During the preapplication meeting, the ASI should counsel the applicant concerning regulatory requirements and FAA policies. Applicants should be made aware of any ethical considerations involved.

(1) The applicant should understand that the purpose of an Aviation Maintenance Technician School is to qualify the student to perform the duties of an aviation maintenance technician (FAR § 147.21(a)). The ASI should emphasize to the applicant, the contribution made to aviation safety by a certificated aviation maintenance technician.

(2) Applicants should be encouraged to set high goals when establishing courses. The applicant should recognize and accept responsibility to maintain high standards and continuously improve programs.

NOTE: Applicants should not be forced to exceed FAR Part 147 requirements.

(3) The ASI should make an informal on-site visit to check the facilities and equipment, if available.

9. FORMAL APPLICATION PHASE. The formal application phase requires a Formal Application Meeting to present the required certification documents and discuss those issues relevant to the particular application. The Certification Project Manager meets with the official(s) representing the school. The Aviation Maintenance Technician School Certificate and Ratings Application (FAA Form 8310-6), the compliance statement, the curriculum, standards for graduation, attendance and make-up procedures, grading procedures, facility layout, and the instructor qualifications are reviewed for conformity to the regulations.

A. *Compliance Statement.* To benefit the applicant, the compliance statement ensures that all applicable regulatory requirements are addressed during the certification process. The compliance statement must list each applicable FAR Part 147 section and provide a brief narrative or a specific reference to a manual or other document describing the planned method of compliance with the regulation.

B. *Curriculum.* For guidance on curriculum requirements, refer to Vol. 2, Ch. 187, Evaluate FAR Part 147 Aviation Maintenance Technician School's Curriculum/Revision and Instructor Qualifications.

(1) Practical projects referred to in FAR § 147.21(d) include all functions specified in the curriculum that involve hands-on tasks. Therefore, practical projects should include virtually any task taught to levels 2 or 3, as specified in FAR § 147 Appendices, since all of these require some practical application.

(2) FAR § 147.38 addresses the maintenance of curriculum requirements. Generally, the Federal Aviation Regulations prescribe minimum standards for certification and operation. These standards may be exceeded, but only when approved as part of an approved curriculum.

C. *List of Instructors and Qualifications.* The certificate number, ratings, and subjects must be listed for each instructor. There must be at least one certificated instructor

or every 25 students in each shop or laboratory class (FAR § 147.23). The suitability of non-certificated instructors to teach certain general courses will be evaluated on an individual basis.

D. *Student Enrollment Statement.* This statement indicates the maximum number of students to be taught for each rating during each enrollment period.

E. *Written Description of Facilities.* This description must include a facility layout plan indicating the relative location of classrooms to shops/laboratories, including dimensions, and the relative location of each facility to each other facility when there is more than one site or location for the school.

F. *Inventory of Equipment, Materials and Tools.* The inventory must detail which tools will be provided by the school and which tools must be furnished by the students.

11. DOCUMENT COMPLIANCE PHASE. In the Document Compliance Phase, the applicant's manuals and other documents are reviewed thoroughly and then approved or rejected. Each document must be given an in-depth review to ensure that it complies with applicable regulations and conforms to safe operating practices.

13. DEMONSTRATION AND INSPECTION PHASE. In this phase, the certification team makes an on-site inspection to determine whether the applicant's proposed procedures and programs are effective (see Vol. 2, Ch. 187). At this time, the applicant demonstrates that the facilities and equipment are safe and satisfactory (see Vol. 2, Ch. 188). Emphasis is on compliance with the regulations. Throughout the Demonstration and Inspection Phase, the Certification Project Manager must ensure that each aspect of the applicant's required demonstration is first observed and then approved or disapproved.

A. Suitability of facilities, equipment, tools and materials is determined in relation to the approved curriculum. For example, an area may not be suitable for aircraft assembly. However, with appropriate scheduling and proper consideration of factors such as light, heat, noise, etc., that same area may be suitable for classroom instruction.

B. The amount of materials and the kinds of equipment and tools to be used also depend on the curriculum and number of students. For example, the applicant must demonstrate that the school has the appropriate tools and equipment to accomplish each project.

15. CERTIFICATION PHASE. An applicant is entitled to a certificate when the following have been accomplished:

- The certification process is completed
- Each unsatisfactory item has been corrected
- It is determined whether the applicant has met all regulatory requirements and understands the related responsibilities
- It has been determined whether the applicant is capable of complying with the Federal Aviation Regulations on a continuing basis
- It has been demonstrated that the applicant is capable of conducting operations in a safe manner

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of FAR Parts 43, 65 and 147

B. *Coordination.* This task requires coordination with Maintenance Aviation Safety Inspectors (ASIs), Avionics ASIs, the regional Flight Standards division, and headquarters.

3. REFERENCES, FORMS AND JOB AIDS

A. *References*

- Sections 313(a), 314 , 601, and 607 of the Federal Aviation Act of 1958, as amended

B. *Forms*

- FAA Form 8000-4, Air Agency Certificate
- FAA Form 8310-6, Aviation Maintenance Technician School Certificate and Ratings Application
- FAA Form 8400-6, Preapplication Statement of Intent (PASI)
- Advisory Circular Form 8300-10, Certificate, Authorization, or Designation Action Request

C. *Job Aids*. None.

5. PREAPPLICATION PHASE

A. *Handle Initial Inquiry*. Upon initial contact with the applicant, determine if the proposed operation is subject to FAR Part 147. If it appears that the applicant is capable of meeting the regulatory requirements for certification, accomplish the following:

(1) Advise the applicant as to which regulations must be met and where copies of the regulations may be obtained.

(2) Provide the applicant with a Preapplication Statement of Intent (PASI), FAA Form 8400-6. Instruct the applicant to complete the PASI and submit it to the district office with jurisdiction over the area in which the facility is located.

B. *Schedule Preapplication Meeting*. Upon receipt of a completed PASI, the office manager or unit supervisor assigns a Certification Project Manager to the project. The CPM schedules a preapplication meeting and advises the applicant that key management personnel, as listed on the PASI, should attend the meeting. Inform the applicant that these key personnel must be prepared to discuss specific aspects of the applicant's proposed operation.

NOTE: This meeting may be combined with the formal application meeting, at the discretion of the Certification Project Manager.

C. *Review PASI*. The district office manager or the manager's designee reviews the PASI for completeness and accuracy.

(1) Forward two copies to the regional office for processing. The district office will obtain a precertification number from AVN-120.

(2) If a regional representative is designated to serve on the certification team, enter the name of the regional representative in the Remarks section of the PASI.

D. *Conduct Precertification Inspections*. If possible, visit the proposed school before a formal application is filed. Inspect and make necessary recommendations regarding the following:

- Classrooms
- Work areas
- Materials
- Laboratories
- Technical data
- Instructional aids
- Other areas as needed

E. *Select Certification Team Members*. The district office manager forwards a list of team members and their particular areas of specialty to the regional office.

F. *Conduct Preapplication Meeting*

(1) Ensure that the applicant is aware of the regula-tory requirements and FAA policies regarding certification and operation of aviation maintenance technician schools.

(2) Inform the applicant that a formal application consists of at least the following:

(a) A letter requesting the application be processed and indicating when facilities and equipment will be ready for formal inspection

(b) Two completed copies of FAA Form 8310-6, Aviation Maintenance Technician School Certificate and Ratings Application

(c) A compliance statement listing each applicable FAR Part 147 section and providing either a brief narrative or, preferably, a specific reference to a manual or other document which describes the manner of compliance with the regulation

(d) A detailed description of the proposed curriculum. Emphasize that since the actual curriculum must be approved before certification, the applicant can save time and money by submitting the actual curriculum with the formal application.

(e) A written description of the facilities to be used for instruction. Ask the applicant to provide detailed drawings with dimensions of classrooms and laboratory/shop facilities. The drawings should show the relative location of each school facility.

(f) An inventory of the materials, equipment and tools to be used. Advise the applicant to detail which tools will be provided by the school and which must be furnished by the students.

(g) A list of instructors showing any required certificate number(s), ratings, and subjects to be taught by each. Each subject in the proposed curriculum must be accounted for on the instructor listing. Ensure that the applicant understands that technical maintenance courses other than certain general subjects must be taught by appropriately certificated Airframe and/or Powerplant Aviation Maintenance Technicians. Inform the applicant that at least one certificated instructor is required for every 25 students in each shop or laboratory class (FAR § 147.23).

(h) A statement indicating the maximum number of students to be taught for each rating during each enrollment period. This information will also be shown on the application form.

(i) The appropriate and current technical data necessary for the rating(s) sought. The procedures should demonstrate how and by whom the data will be updated. The data should include the following:

- Federal Aviation Regulations
- Type certificate data sheets
- Airworthiness Directives (ADs)
- Supplemental type certificates
- Maintenance manuals
- Advisory Circulars
- Other instructional material as required by FAR § 147

(3) Inform the applicant that three types of ratings may be issued - Airframe, Powerplant, and combined Airframe and Powerplant.

(4) Instruct the applicant to complete FAA Form 8310-6, Aviation Maintenance Technician School Certificate and Ratings Application.

(5) Ensure that the applicant understands the purpose and content of the formal application attachments.

(6) Inform the applicant that the school must have approved systems for determining final course grades and for controlling and recording attendance. Advise the applicant to present these systems to the FAA in writing for approval.

(7) The applicant must provide procedures for updating the technical data library and calibration of precision tools.

(8) Inform the applicant of administrative and recordkeeping requirements for certification.

(9) Ensure that the applicant understands FAR § 147.31, regarding crediting students for previous training and experience (see Vol. 2, Ch. 187). Inform the applicant that the school may not teach students before certification as an Aviation Maintenance Technician School and then give credit for that training after certification (FAR § 147.31(c)(1)(iv)).

(a) Ensure that the applicant understands that when granting credit for previous aviation maintenance technician **experience** (FAR § 147.31(c)(3)), only documentary evidence and testing is permitted. Emphasize that previous experience must be aviation maintenance experience and be comparable to the required curriculum subjects.

(b) Explain to the applicant that any of several methods may be used to determine the amount of credit to be given to students for previous **training** under FAR § 147.31(c)(1).

7. FORMAL APPLICATION PHASE

A. *Review the Formal Application and Attachments.* Review the application and attachments. Determine whether all documents have been submitted and are complete.

B. *Schedule and Conduct Formal Application Meeting.* Meet with key school personnel to discuss submitted formal application. Resolve any open questions or discrepancies at this time.

C. *Accept or Reject Formal Application.* Based on the initial review of the application and any meetings with the applicant, accept or reject the application. Advise the applicant in writing of the results. If the application is rejected, return the application and attachments with a letter stating the reasons for rejection.

9. DOCUMENT COMPLIANCE PHASE

A. *Review Documents.* Thoroughly review the applicant's curriculum and other documents to ensure that each complies with the applicable regulations. Approve, accept, or reject each document as appropriate. Documents reviewed during this phase may include the following:

- FAA Form 8310-6, Aviation Maintenance Technician School Certificate and Ratings Application
- The compliance statement
- Curriculum (FAR § 147.21)
- Instructor requirements and qualifications (FAR § 147.23)
- Minimum standards for graduation and method of determining final grades (FAR § 147.31)
- Procedures for recording and controlling attendance, and provisions for makeup classes (FAR § 147.31)
- Written procedures for taking FAA written, oral and practical tests and for recordkeeping requirements found in FAA Order 8610.4, Chapter 5
- Procedures for maintaining, keeping, and distributing student records and transcripts (FAR § 147.33)
- Procedures for updating technical data library and calibration of precision tools
- Facility layout

B. *Document Deficiencies.* If deficiencies are found in any document submitted by the applicant, return the document with a letter outlining the deficient areas.

NOTE: The certification team should be ready to offer suggestions on how to improve the product but should avoid "writing" the applicant's documents.

C. *If Necessary, Terminate the Certification Process.* If the documents are of insufficient quality, advise the applicant that continuing the certification project is impractical and schedule a meeting with the applicant to discuss each deficiency in detail.

(1) Complete item 13 of FAA Form 8310-6, Aviation Maintenance Technician School Certificate and Ratings Application, by checking "disapproved," or by indicating that the application was withdrawn, as appropriate.

(2) Return the application with a letter advising the applicant of the reasons for termination. Advise the applicant that a new PASI is required to initiate the certification process again.

(3) Forward two copies of the letter to the regional office, which will forward one copy to AFS-300.

(4) Notify AVN-120 that the project has been terminated.

11. DEMONSTRATION AND INSPECTION PHASE

A. *Observe Demonstrations and Conduct Inspections.* Ensure that the applicant's proposed procedures and programs are effective, and that facilities and equipment are safe and satisfactory. Follow the procedures in Vol. 2, Ch. 188. Ensure compliance with the regulations as follows:

- Facilities meet the requirements of FAR §§ 147.13 and 147.15
- Instructional aids meet the requirements of FAR § 147.17
- Materials, tools, and shop equipment meet the requirements of FAR § 147.19

B. *Document Deficiencies.* If deficiencies exist, provide a list of discrepancies to the applicant. Schedule a meeting to discuss in detail the appropriate corrective action to be taken. Place documentation in the certification file.

(1) If the applicant does not demonstrate compliance or if discrepancies cannot be resolved, send a letter of rejection and a list of discrepancies.

(2) Inform the applicant that the Certification Project Manager must be notified in writing of all corrective action taken.

13. CERTIFICATION PHASE

A. *Issue Certificate.* When all regulatory requirements have been met, accomplish the following:

(1) Complete Block 13 of FAA Form 8310-6, Aviation Maintenance Technician School Certificate and Ratings Application.

(2) Approve the curriculum by signing and dating the list of effective pages and revision pages.

(3) Obtain a final certificate number from AVN-120.

(4) Prepare an Air Agency Certificate, FAA Form 8000-4. Ensure that the certificate is signed by the district office manager. Give the original certificate to the new certificate holder.

(5) Prepare and process a "Certificate, Authorization, or Designation Action Request," Advisory Circular Form 8300-10.

B. *Prepare Certification File.* Once the school is certificated, prepare a district office file. The file must include the name and title of each ASI who assisted in the certification. The file is signed by the Certification Project Manager. The file shall contain at least the following:

(1) Copy of the PASI

(2) Completed FAA Form 8310-6, Aviation Maintenance Technician School Certificate and Ratings Application

(3) The compliance statement

(4) Copy of the Air Agency Certificate issued

(5) Copy of the approved curriculum

(6) List of the instructors, their qualifications, and the courses they will be teaching

(7) Facility layout

(8) Procedures for updating the technical data library and calibration of precision tools

(9) Summary of any difficulty encountered during certification

C. *Distribute Application Form 8310-6.* Distribute FAA Form 8310-6, retaining the original form in the district office and forwarding two copies to the regional office, which forwards one copy to AFS-300.

15. TASK OUTCOMES

A. *Complete PTRS Transmittal Form.*

B. Completion of this task will result in one of the following:

- Issuance of an air agency certificate
- A letter to the applicant indicating that the certificate is denied
- A letter to the applicant confirming termination of the certification process by the applicant

17. FUTURE ACTIVITIES

A. Observe the school during the first 90 days of operation.

B. Additional inspections may be necessary to determine compliance with the applicable Federal Aviation Regulations.

C. The ASI may direct changes in the methods or techniques of operation

CHAPTER 187 EVALUATE FAR PART 147 AVIATION MAINTENANCE TECHNICIAN SCHOOL'S CURRICULUM/REVISION AND INSTRUCTOR QUALIFICATIONS

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: 3384 (initial)/3385 (revision)

B. *Avionics*: 5384 (initial)/5385 (revision)

3. OBJECTIVE. This chapter provides guidance for evaluating the curriculum or curriculum revision of an Aviation Maintenance Technician School certificated under FAR Part 147.

5. GENERAL

A. *Definitions*

(1) *Check*: A check verifies the item's proper operation but does not require it to return to service. The item checked does not have to be the item overhauled.

(2) *Quality Standards*: A school's highest priority is to develop, in the student, those manipulative skills needed to stimulate return to service. However, it is not necessary for the training aid itself to meet "return to service" standards.

(3) *Troubleshoot*: In order to "troubleshoot" the airframe, powerplant, or aircraft component, the item must be made operational.

B. *Curriculum Background.* FAR § 147.21 sets forth the minimum curriculum requirements. Maintenance of curriculum requirements is set forth in FAR § 147.38.

(1) Practical projects referred to in FAR § 147.21(d) include all functions specified in the curriculum that involve hands-on tasks. Therefore, practical projects should include virtually any task taught to levels 2 or 3, as specified in FAR Part 147 Appendices, since all of these require some practical application.

(2) FAR § 147.38 addresses the maintenance of curriculum requirements. Generally, the Federal Aviation Regulations prescribe minimum standards for certification and operation. These standards may be exceeded, but only when they are part of an approved curriculum.

(3) An Aviation Maintenance Technician School must adhere to its approved curriculum. Any new course material the school wishes to add must be incorporated into the approved curriculum and approved by the FAA before it may be used. This does not prohibit a school from teaching unapproved courses, such as refresher courses or academic courses required to complete a degree program. However, those courses must be clearly distinguishable from approved Aviation Maintenance Technician School courses.

(4) The Aviation Safety Inspector (ASI) should inform the school of what will be required to keep its approved Aviation Maintenance Technician School curriculum current with industry needs by revising courses. It must be made clear, however, that these revisions require FAA approval before they can be implemented.

C. *Curriculum Components.* The curriculum or revision must be approved by the FAA. The FAR Part 147 curriculum will consist of the following for each subject:

- Subjects taught
- Course content
- Teaching level requirements
- Test requirements

- Classroom or theory hours
- The total number of hours required for successful completion
- Shop or lab hours
- A schedule of required tests or quizzes
- Order of instruction for each rating

NOTE: At the discretion of the ASI, and in consultation with the school, it may be advantageous to include the school's operating rules in the curriculum (FAR Part 147, Subpart C).

D. *Texts.* If specific texts are approved as part of the curriculum, any change to a different text will require FAA approval as a revision.

7. CURRICULUM REQUIREMENTS

A. *Hours of Instruction.* The number of hours of instruction offered must be at least the minimum specified by FAR § 147.21. The school may offer more hours of instruction; however, regardless of the number of hours offered, the FAA must approve the entire aviation maintenance technician curriculum at the time of initial certification. The following blocks of time are not to be included in calculating the minimum number of instructional hours specified in FAR § 147.21:

(1) Time used to take the FAA oral and practical test

(2) Time spent in taking the FAA written test

(3) Time set aside for review and final testing at the conclusion of the course. This is not to preclude review and testing from the curriculum, but to differentiate between the time spent in learning new material and the time spent in review.

B. *Order of Instruction.* The curriculum must describe the order of course progression for each rating offered. For example, Basic Electricity would be followed by Aircraft Electrical Systems.

C. *Subjects Prescribed by FAR Part 147.* The curriculum must cover the subjects and items prescribed in FAR Part 147, Appendix B, and in Appendices C or D, as applicable.

(1) Subjects that are submitted for approval as part of the curriculum will not be made part of the curriculum until approved by the FAA.

(2) Each subject item must be taught at the minimum level of proficiency as defined in FAR Part 147, Appendix A. When the school wishes to teach a subject item to a level beyond the requirements, the teaching level must be made part of the approved curriculum. Subject items must not be taught to a level less than that shown in the approved curriculum.

(3) Additional subjects/courses that are required by the school for their purposes, i.e., degree programs, shall not be submitted as part of the FAA approved curriculum.

(4) A distinction shall be made between additional courses/subjects that are part of the approved curriculum under FAR Part 147 and those that are not.

(5) The teaching of additional subject material beyond the requirements of FAR Part 147, Appendices B, C, and D will require additional instruction hours beyond those required by FAR § 147.21.

D. *Practical Application Projects*

(1) The curriculum shall list the practical projects that must be completed for each subject item. There must be sufficient practical projects to address the requirements of FAR Part 147, Appendices B, C and D, as applicable. The curriculum shall include enough detail to evaluate the practical projects for correct teaching level, for equipment and tools needed, and for performance standards and objective grading criteria.

(2) The teaching level must be specified for each project under each subject item. The minimum teaching level is specified in FAR Part 147 Appendices. As in the case of theoretical courses, if the teaching level is to exceed the Federal Aviation Regulation requirements, it must be specified as such in the curriculum.

(3) The curriculum must show an appropriate amount of time for each project. ASIs shall look for time allotments that are excessive or insufficient.

(4) The curriculum shall provide that each task in each subject item is accomplished. For example, if a project requires that the student inspect and repair to accomplish a practical project, a requirement for both inspection and repair must be included in the project plan.

(5) The **overall** curriculum must be taught at least 50 percent in the shop or lab. However, not every subject item lends itself to 50 percent shop work. The ASI should ensure that shop and theory are balanced as appropriate to the subject item being taught. The ASI should review the curriculum if the courses seem artificially organized to meet the 50 percent requirement.

E. *Scheduling of Tests.* Upon completion of each curriculum subject, a test must be scheduled. In addition, quizzes may be scheduled between subject items.

F. *Grading Criteria.* A generally accepted academic standard for passing (including the FAA written exams) is a minimum of 70 percent. However, the school may require a higher minimum passing grade. All theoretical and practical portions of each subject listed in the curriculum must be passed to the approved grading standard. Each practical project must be passed as well to the approved standard.

G. *Make Up Provisions*

(1) The curriculum must show the number of hours of allowed absences.

(2) All material missed shall be made up in the same subject area.

(3) All practical projects missed shall be made up.

9. REVISIONS TO THE CURRICULUM. Changes to the approved curriculum must be approved before implementation. Changes in the curriculum may include changes in any of the following:

- Teaching level
- Hours of instruction
- Testing
- Make-up provisions
- Course content
- Equipment or facilities affecting instruction in theoretical subjects or the accomplishment of practical projects
- Order of instruction
- Addition or deletion of a rating

11. CREDIT FOR PREVIOUS INSTRUCTION OR EXPERIENCE

A. *Crediting Previous Instruction at a Certificated Aviation Maintenance Technician School.* The school must use either a reliable method of evaluating documentation or an entrance test to ensure that previous instruction is comparable to that offered by the crediting school. When not using an entrance test, schools should be encouraged to use catalogs, course descriptions, and other documents to determine the credit to be granted.

(1) Students may take a course of study for one rating. The course of study will include the General portion of the curriculum. A student returning to school to study for a second rating after having graduated from the course for the first rating will not have to retake the General portion of the curriculum. The General portion undoubtedly must be separate and distinct from either the Airframe or the Powerplant portions and conform to the requirements of FAR Part 147, Appendices A and B.

(2) If a certificated aviation maintenance technician school is under suspension by the FAA, courses taught during the suspension period shall not be credited retroactively, even if the school becomes re-certificated later.

(3) An applicant must not teach students as an aviation maintenance technician school before school certification and then give credit for that training after the school becomes certificated.

(4) A school may credit a student with instruction that was completed satisfactorily at another aviation maintenance technician school either before or after its certification (FAR § 147.31(c)(1)(iv)).

B. *Crediting Previous Instruction from Other Schools (Non-Aviation Maintenance Technician Schools, Accredited and Non-Accredited).* As a general practice, credit may be granted only for subjects that apply to the General portion of the curriculum.

NOTE: Accreditation, as referenced in FAR Part 147 refers to schools accredited within the United States. Certificated aviation maintenance technician schools may not grant credit for maintenance instruction received outside the United States.

C. *Crediting Previous Instruction from Military Technical Schools.* When credit is granted, it may be granted only on the basis of an entrance test, as specified in FAR § 147.31(c)(2).

D. *Credit for Previous Experience.* As a general rule, creditable previous mechanic experience shall be aviation maintenance experience. Credit for all previous experience must be documented and demonstrated by testing. The test must be equal to the test given to students who complete the comparable required curriculum subjects at the school.

13. INSTRUCTOR QUALIFICATIONS AND FACULTY REQUIREMENTS

A. *Faculty Requirements*

(1) An instructor must hold an FAA Mechanic Certificate with ratings appropriate to the subjects that the instructor teaches.

(2) Individuals listed as instructors, lab assistants or teaching assistants also must be certificated properly if they are used for instruction in any subjects other than mathematics, physics, drawing, or similar subjects. The suitability of non-certificated instructors to teach certain general courses will be evaluated on an individual basis. Cases have arisen where instructors have not taught these subjects in a manner applicable to aviation maintenance. ASIs must be aware of this type of situation and ensure that the appropriate information is taught according to the FAA-approved curriculum.

B. *Student/Teacher Ratios.* FAR § 147.23 requires at least one certificated instructor for each 25 students in each shop or laboratory class. The ASI must exercise discretion when prescribing a lower student to teacher ratio according to the needs of the class.

C. *Performance.* The ASI should encourage the school to provide for regular assessment of instructor performance.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Parts 43, 65, and 147

B. *Coordination.* This task may require coordination with certification team members, regional specialists and Avionics ASIs.

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- Order 8300.5, Aviation Safety Inspector, General Aviation Job Function Reference Guide, as amended

B. *Forms*

- FAA Form 8310-6, Aviation Maintenance Technician School Certificate and Ratings Application

C. *Job Aids.* None.

5. PROCEDURES

A. *Review the Curriculum.* For an initial certification, thoroughly analyze the curriculum prior to the date of the team inspection. Ensure the following:

- The number of hours meets the requirements of FAR § 147.21
- The curriculum fulfills the requirements of FAR Part 147, Appendices A, B, C, and D
- Instructor qualifications match the subjects being taught
- All subjects taught to a level of two or three involve practical hands-on projects
- At least 50 percent of the total curriculum is spent in the lab and/or shop
- The curriculum shows a schedule of tests for each subject
- The curriculum states the minimum standards for a student to successfully complete the requirements for FAA certification
- Grading criteria for academic and practical subjects have been developed
- Make-up provisions are included
- Procedures for crediting previous experience or instruction have been developed

B. *Review Instructor Qualifications.* Ensure that the instructors' certificates are valid and that there are no certificate actions pending.

7. TASK OUTCOMES

A. *Complete a PTRS Transmittal Form*

B. *Curriculum/Revision/Instructor Qualifications are Approved*

(1) For an initial certification, complete FAA Form 8310-6, Aviation Maintenance Technician School Certificate and Ratings Application. Attachments to FAA Form 8310-6 must include the following:

- The proposed curriculum
- A list of required practical projects
- A schedule of required tests
- A list of instructors names, with certificate numbers, ratings held, type, and subject(s) to be taught

(2) *Revision.* As appropriate to the approved method for recording revisions, initial the applicable document(s). Return the curriculum to the school.

C. *Curriculum/Revision/Instructor Qualifications Are Not Approved*

(1) *Initial Certification.* For an initial certification, complete FAA Form 8310-6. Fill out FAA Form 8310-4, which is on the back of FAA Form 8310-6.

A. *References*

- Order 8300.5, Aviation Safety Inspector, General Aviation Job Function Reference Guide, as amended

B. *Forms*

- FAA Form 8310-6, Aviation Maintenance Technician School Certificate and Ratings Application

C. *Job Aids.* None.

5. PROCEDURES

A. *Review the Curriculum.* For an initial certification, thoroughly analyze the curriculum prior to the date of the team inspection. Ensure the following:

- The number of hours meets the requirements of FAR § 147.21
- The curriculum fulfills the requirements of FAR Part 147, Appendices A, B, C, and D
- Instructor qualifications match the subjects being taught
- All subjects taught to a level of two or three involve practical hands-on projects
- At least 50 percent of the total curriculum is spent in the lab and/or shop
- The curriculum shows a schedule of tests for each subject
- The curriculum states the minimum standards for a student to successfully complete the requirements for FAA certification
- Grading criteria for academic and practical subjects have been developed
- Make-up provisions are included
- Procedures for crediting previous experience or instruction have been developed

B. *Review Instructor Qualifications.* Ensure that the instructors' certificates are valid and that there are no certificate actions pending.

7. TASK OUTCOMES

A. *Complete a PTRS Transmittal Form*

B. *Curriculum/Revision/Instructor Qualifications are Approved*

(1) For an initial certification, complete FAA Form 8310-6, Aviation Maintenance Technician School Certificate and Ratings Application. Attachments to FAA Form 8310-6 must include the following:

- The proposed curriculum
- A list of required practical projects
- A schedule of required tests
- A list of instructors names, with certificate numbers, ratings held, type, and subject(s) to be taught

(2) *Revision.* As appropriate to the approved method for recording revisions, initial the applicable document(s). Return the curriculum to the school.

C. *Curriculum/Revision/Instructor Qualifications Are Not Approved*

(1) *Initial Certification.* For an initial certification, complete FAA Form 8310-6. Fill out FAA Form 8310-4, which is on the back of FAA Form 8310-6.

CHAPTER 188 EVALUATE FAR PART 147 AVIATION MAINTENANCE TECHNICIAN SCHOOL FACILITIES, EQUIPMENT, MATERIALS, TOOLS AND RECORDS

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: 3230

B. *Avionics*: 5230

3. OBJECTIVE. This chapter provides guidance for evaluating the facilities, equipment, materials, and tools for an Aviation Maintenance Technician School. Such an evaluation occurs as part of an original certification, addition of a rating, curriculum change, or change of location.

5. GENERAL

A. *Definitions*

(1) *Common Hand Tools*: Small, ordinary tools such as ratchets, sockets, etc.

(2) *Instructional Aids*: Equipment used to instruct, such as mock-ups, diagrams, visual aids, aircraft, engines, components, etc.

(3) *Shop Equipment*: Machinery, fabricating devices, spray paint equipment, battery chargers, etc.

(4) *Special Tools*: Highly specialized tools such as tensionometers, micrometers, torque wrenches, etc.

B. *Appropriate Equipment and Facilities*: An Aviation Maintenance Technician School must have instructional equipment and suitable facilities appropriate to the ratings taught and approved by the FAA. Materials and tools must be of a type, quantity, and quality appropriate to the needs of the curriculum and the number of students.

7. PRE-INSPECTION ACTIVITY

A. *Initial Certification.* The certification team will approve the curriculum before formal inspection of the facility. During the Preapplication Meeting, the Certification Project Manager (CPM) may request a briefing and an informal inspection of the facility. The applicant may request that an Aviation Safety Inspector (ASI) informally evaluate the facility to see if it appears to be within the guidelines of the Federal Aviation Regulations. This may be accomplished before completion of the facility, but only after submitting a Preapplication Statement of Intent (PASI).

B. *Added Rating/Curriculum/Location Change.* To add a rating or execute a change in curriculum or location that affects facilities, equipment, materials, or tools, etc., the office manager or airworthiness unit supervisor will determine whether one ASI or a team is necessary to accomplish the site inspection.

(1) To add a rating, see the appropriate sections on changes to curriculum in Vol. 2, Ch. 187, Evaluate FAR Part 147 Aviation Maintenance Technician School's Curriculum/Revision and Instructor Qualifications and the appropriate sections on changes to equipment, materials, tools and records found below.

(2) For changes to curriculum, see curriculum requirements as found in Vol. 2, Ch. 187.

(3) For change in location, the district office must make a detailed analysis of the change in plans and their effect on the following:

- The students in training, whether or not in actual attendance during the time of the change

- Loss of instructional hours as shown in the curriculum. There must not be a loss of instructional hours.

- The school's method of meeting the certification requirements particularly space requirements and curriculum per FAR §§ 147.15 and 147.21

(4) Approval shall be granted to the school in writing.

(5) If a change has been made without approval, the district office shall begin an Enforcement Investigation procedure.

C. *Change of FAA District.* When the location is a change to another FAA district, the application for approval must be directed to the district office that has current certificate responsibility. The originating district office will contact and coordinate directly with the receiving district office. The school maintains the responsibility of the originating district office until the change is approved.

9. DEMONSTRATION ACTIVITY. Ensure compliance with regulations as follows:

- Facilities meet the requirements of FAR §§ 147.13 and 147.15

- Instructional aids meet the requirements of FAR § 147.17

- Materials, tools, and shop equipment meet the requirements of FAR § 147.19

11. FACILITIES. The instructional equipment, shop equipment, hand tools and physical layout of the building must meet the requirements outlined in FAR §§ 147.15, 147.17, and 147.19. The ASI should keep in mind that the facility must constitute an environment suitable for learning.

A. *Classroom Areas.* An area suitable for classroom instruction may not be suitable for lab and/or shop. With appropriate scheduling and consideration of factors such as ventilation, lighting, noise, and temperature control, an area appropriate for lab and/or shop may be acceptable for classroom instruction.

B. *Shop Environment.* Ventilation must be such that fumes from painting, fueling, degreasing, doping facilities, etc., are properly removed from the immediate work area and are not allowed to pass into other instructional areas.

C. *Facility Size and Location*

(1) Facilities must be adequate to hold the number of authorized students participating in any of the shop/lab projects designated for that area.

(2) Facilities must be located and classes scheduled so that students can travel between classes without cutting into instructional time. ASIs should pay special attention to situations in which the students cannot go easily and quickly from one class to another.

13. EQUIPMENT

A. *Instructional Equipment*

(1) The instructional aids required in FAR § 147.17 must be appropriate to the scope and depth of the curriculum of the school. The ASI shall determine whether the complexity of instructional aids is appropriate to the specific teaching level of the subject item.

(2) In some situations, the school may choose to use active aircraft for instructional purposes in the shop. This is permissible as long as the aircraft is on the premises at the time of instruction. The ASI shall remind the school that active aircraft used to comply with FAR §§ 147.17(a)(2) and (d) become part of the approved instructional equipment and must be available as specified in FAR § 147.37.

(3) The ASI shall ensure compliance with requirements for the ratio of instructional equipment to students in each

shop course. FAR § 147.17(2)(c) requires that not more than eight students may work at any one unit of equipment at a time. However, the ASI may determine whether eight students are too many to complete a certain project safely and competently, such as live aircraft that are used for the demonstration of gear retraction systems.

B. *Shop Equipment*

(1) The ASI must determine if enough equipment is in place and in satisfactory operating condition to serve the student enrollment adequately and meet shop project requirements.

(2) The equipment must be located so that it can be operated in a safe and efficient manner. Large standing equipment must be installed securely. Large pieces of equipment should be placed to provide sufficient aisle space so that the students can move about freely. The ASI must determine if the floor is free from clutter and items such as extension cords.

15. MATERIALS. The school must have sufficient materials in stock and properly stored to provide for the approved student enrollment. In order to ensure adequate instruction, the amount and variety of stocks should directly reflect the requirements of the curriculum.

17. TOOLS

A. *Tool Standards.* For subjects taught at Level 3, all tools required to meet "return to service" standards must be in satisfactory working condition and of the proper kind for their intended purpose. FAR § 147.19 requires the school to have an adequate supply of materials and tools appropriate to the curriculum of the school.

B. *Student Hand Tool Policy.* The school may either provide common hand tools or require students to furnish their own. In either case, the school must establish a policy on provision of common hand tools. Any tools that the school requires the student to furnish must be listed in the curriculum. The school will furnish special tools, such as cylinder hold down wrenches, micrometers, etc.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Parts 43, 65 and 147, including Appendices A, B, C, and D
- Previous experience with certification or surveillance of FAR Part 147 schools is desirable

B. *Coordination.* This task requires coordination with Avionics ASIs and certification team members, as appropriate.

3. REFERENCES, FORMS AND JOB AIDS

A. *References*

- Order 8300.5, Aviation Safety Inspector, General Aviation Job Function Reference Guide, as amended
- The school curriculum

B. *Forms*

- FAA Form 8310-6, Aviation Maintenance Technician School Certificate and Rating Application
- FAA Form 8000-4, Air Agency Certificate (for initial certification)

C. *Job Aids.* None.

5. PROCEDURES

A. *Review the Applicant's File.* Before inspecting the facility, review the applicant's application and district office file. Check for any previous violation history. Review previous correspondence. Check the curriculum or proposed curriculum for currency. Take a copy of the curriculum and facility layout to the school site.

B. *Inspect the Facility.* Compare the curriculum against the instructional aids, shop equipment and hand tools at the site. Compare the physical layout with the facility layout plan.

(1) Check the instructional aids for agreement with the curriculum. Determine if the items required for each course are actually at the site as required by the approved student level.

(2) Determine whether all instructional aids are actually operable and safe to use. For example, a retractable landing gear instruction device should operate properly.

(3) Ensure that adequate stocks of operational/maintenance instructions, parts manuals, and technical data are at the site, according to the requirements of the curriculum.

(4) Determine if the number and size of classrooms and shop areas are consistent with the facility layout submitted with the curriculum. Ensure that the lighting and ventilation are adequate.

(5) Verify that the tools, materials, and shop equipment match the inventories/descriptions required by the curriculum. Ensure that these items are stored properly.

(6) Verify that a record keeping system is in place for tool inventory, calibration, and the updating of technical instructional materials.

(7) Inform the applicant of any discrepancies noted. Make a record of such deficiencies in the remarks section of FAA Form 8310.6, as appropriate.

7. TASK OUTCOMES

A. *Complete a PTRS Transmittal Form*

B. *Facility Approved*

(1) For an initial certification or added rating, complete FAA Form 8310.6, as applicable. Attach the appropriate documents, as required. Make a copy of the form and all pertinent documents and retain a copy for the district office file.

(2) For a curriculum or location change that affects facilities, equipment or tools, complete FAA Form 8310.6, as applicable. Retain a copy of the form for the district office file.

C. *Facility Disapproved*

(1) Mark FAA Form 8310-6 disapproved and return to the applicant with attachments. Retain a copy for the office file.

(2) Write a letter to the applicant stating the reasons for disapproval. Advise applicant to re-submit a new application when the discrepancies are corrected. Upon receipt of a new application, re-schedule the facility inspection.

9. FUTURE ACTIVITIES. Routine surveillance.

CHAPTER 203 CERTIFICATE/RENEW DESIGNATED AIRWORTHINESS REPRESENTATIVE (DAR)

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: 3516/3518

B. *Avionics*: None

3. OBJECTIVE. This chapter provides guidance for the issuance, renewal and cancellation of certificates for Designated Airworthiness Representatives (DARs).

5. GENERAL. FAR Part 183 provides for the appointment of individuals to act as representatives of the Administrator. FAA Order 8000.62 describes the authority of DARs and provides procedures for designation. FAA Order 8000.57, Appointment of Former Airworthiness Safety Inspectors as DARs, provides for the appointment of former Aviation Safety Inspectors (ASIs) as DARs. FAA Order 8130.17, Original versus Recurrent Airworthiness Certification or Related Approvals, clarifies the terms "original certification" and "recurrent certification."

A. DARs may be individuals or appropriate organizations. Managers of Flight Standards Divisions at the regional level are authorized to appoint DARs for maintenance functions. Applications cannot be accepted on a district office level and must be referred to the regional office.

B. DARs authorized to perform maintenance functions may issue recurrent airworthiness certificates or approvals within prescribed limitations. Within the limits of their authorizations, these representatives may also perform original certifications of amateur-built aircraft.

(1) Original certifications are given for aircraft or related products for which an airworthiness certificate or approval has never been issued. Only manufacturing DARs issue original certifications on other than amateur-built aircraft. At present, there are no engineering designations issued under the DARs program.

(2) Recurrent certifications are given for aircraft or related products for which an airworthiness certificate or approval has been issued previously.

C. Any qualified person may apply for an appointment as a DAR. Application for a maintenance designation must be initiated by a letter to the manager of the appropriate Flight Standards Division.

(1) The application letter from an individual must be accompanied by the following:

- FAA Form 8110-14, Statement of Qualifications, completed in duplicate
- Three letters attesting to the applicant's integrity and technical qualifications to perform the function(s) on products of the type and complexity for which the authorization is sought. At least one letter must be from an FAA office manager with whom the applicant has had a direct working relationship in the appropriate discipline(s). This letter must identify that the applicant has worked with the FAA office manager for at least two years. Other letters should be from related industry organizations.
- Statements substantiating that the applicant meets both the general qualifications for the authorization and the specialized experience requirements

(2) The application letter from an organization must be accompanied by the following:

- Three letters from persons who will perform the authorized functions, attesting to their integrity and technical qualifications

- Supplemental statements including the names, signatures, and titles of those persons who will perform the authorized functions, and substantiating that they meet the general qualifications and specialized experience requirements

- A description of a procedure, independent of established organization procedures and acceptable to the FAA, ensuring that only appropriately qualified persons will perform the authorized functions

Note: Former FAA employees should refer to Order 8000.57 to determine which documents are required.

7. ELIGIBILITY REQUIREMENTS

A. *General Eligibility Requirements.* To qualify for appointment as a DAR, all applicants must have the following general qualifications:

- Current and thorough working knowledge of the Federal Aviation Regulations and related material

- Current technical knowledge and experience commensurate with that required for the particular function(s)

- Unquestionable integrity, cooperative attitude, and the ability to exercise sound judgment

- The ability to maintain the highest degree of objectivity while performing authorized functions, consistent with FAA regulations, statutes, and safety goals

- At least two years satisfactory experience working directly with the FAA in connection with the type of work to be covered by the designation

B. *Specialized Experience Requirements.* To qualify as a DAR, the applicant must meet the specialized experience requirements for maintenance functions as detailed in Order 8000.62.

9. PRIVILEGES AND LIMITATIONS

A. *Privileges.* The DAR may issue recurrent airworthiness certificates for U.S.-registered aircraft and/or export airworthiness approvals for Class One and/or Class Two products of the type and complexity provided for by the authorization.

NOTE: ASIs must ensure that designees understand the importance of functioning within the restrictions regarding *type and complexity* of aircraft and/or products.

B. *Limitations.* All functions are to be performed **only** within the limits of the authority delegated, as specified on the Certificate of Authority and/or supplements.

(1) DARs may not, under any circumstances, issue airworthiness certificates or approvals contrary to the Federal Aviation Regulations or FAA established methods, techniques, and practices.

(2) The designee may only function within the authorized geographical boundaries of the managing office, except when granted permission by the managing office on a case-by-case basis. Such authorizations must be in writing and shall not exceed 30 days duration, be granted consecutively, or be granted in excess of three times per calendar year. Telegraphic authorization may be granted, but only when written authorization cannot be provided in a timely manner.

(3) Authorized functions may not be delegated further by the designee.

11. FOREIGN DESIGNEES. The FAA may appoint DARs who are not U.S. citizens and/or who reside in a foreign country. However, the appointing office must first determine whether it has available the resources to make on site visits to monitor the designee's activities. Such a determination is not required for designees who have been authorized, on a case-by-case basis, to travel outside the United States.

13. DURATION AND RENEWAL OF CERTIFICATES

A. DAR authorizations must be renewed annually.

(1) During the month specified by the appointing office, designees seeking renewal must submit a written request for renewal, along with FAA Form 8110-14, Statement of Qualifications, to their managing office. If the manager of the managing office gives a satisfactory recommendation, the regional office will issue a new Certificate of Authority.

(2) In addition, the designee must have accomplished the requirements detailed in Order 8000.62.

B. Designees must attend a DAR Standardization Training Course every 24 months, as scheduled by the managing office.

15. VOLUNTARY SURRENDER AND CANCELLATION. The authorization may be terminated by the FAA at any time for any reason. The authorization must be terminated when any of the following occurs:

- The designee moves outside the geographic boundaries of the appointing office
- The designee has not exercised or performed the duties of the designation properly
- Suspension, cancellation, or revocation of a mechanic or repairman certificate held by the designee
- The designee makes a written request for cancellation

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Parts 21, 43, 91, and 183
- Knowledge of the certification requirements for the specific aircraft and/or associated products

B. *Coordination.* This task will require coordination with regional Flight Standards.

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- Order 8000.57, Appointment of Former Airworthiness Safety Inspectors as DARs
- Order 8000.62, DAR Qualifications, Criteria, Selection, and Appointment Procedures
- Order 8130.2, Airworthiness Certification of Aircraft and Related Approvals, as amended
- Order 8130.17, Original versus Recurrent Airworthiness Certification or Related Approvals
- Advisory Circular 183-33, Designated Airworthiness Representatives, as amended

B. *Forms*

- FAA Form 8000-5, Certificate of Designation
- FAA Form 8100-1, Conformity Inspection Record
- FAA Form 8110-14, Statement of Qualifications

- FAA Form 8130-3, Airworthiness Approval/Conformity Certification Tag

- FAA Form 8430-9, Certificate of Authority

C. *Job Aids.* None.

5. PROCEDURES

NOTE: The regional office is the authority for the issuance of designations. Therefore, these procedures are only applicable to the regional office and may not be delegated, according to Order 8000.62.

A. *Receive the Application Letter*

(1) An application letter from an individual must be accompanied by the following:

- FAA Form 8110-14, Statement of Qualifications, completed in duplicate

- Three letters attesting to the applicant's integrity and technical qualifications to perform the function(s) on products of the type and complexity for the authorization sought

- Statements substantiating that the applicant meets both the general qualifications for the authorization and the specialized experience requirements

(2) An application letter from an organization must be accompanied by the following:

- Three letters from persons who will perform the authorized functions, attesting to their integrity and technical qualifications

- Supplemental statements including the names, signatures, and titles of those persons who will perform the authorized functions, and substantiating that they meet the general qualifications and specialized experience requirements

- A procedure, independent of established organizational procedures and acceptable to the FAA, ensuring that only appropriately qualified persons will perform the authorized functions

B. *Evaluate Applicant*

(1) Ensure that individuals who will perform the authorized functions for DAR Organizations meet the same requirements as individual designees.

(2) Ensure that individuals meet all of the general qualifications and specialized experience requirements for the designation sought.

(3) Contact the applicant's personal references.

(4) Determine whether the applicant has a violation history.

(5) Conduct a personal interview with the applicant, including those persons within organizations who will perform authorized functions.

(6) In the case of a foreign applicant, contact the foreign civil air authority to determine if there have been any problems with the applicant.

C. *Ensure that Designee Numbers Previously Assigned to a Terminated Designee Are Not Reissued*

D. *Determine Need for Foreign Designees.* Ensure that designees are not appointed for on-going activity in a foreign country unless the managing office will evaluate, monitor, and supervise the designee's activities at least twice annually.

7. TASK OUTCOMES

A. *Complete a PTRS Transmittal Form.* In writing, inform the applicant

B. *Application Is Approved.* In writing, inform the applicant of the appointment.

(1) Prepare FAA Form 8430-9, Certificate of Authority.

(a) When possible, state authorized functions and limitations on the front of the certificate. If space limitations require it, supplement the Certificate of Authority with a statement detailing the limits of authority.

(b) For an organization, identify the person(s) within the organization authorized to perform the designated functions.

(c) The front of the Certificate of Authority must be signed by the division manager. The reverse must be signed by the manager of the assigned managing office.

(2) Assign the DAR a symbol.

(a) Flight Standards Divisions numbers will begin with "DAR-1," followed by the letters FS and the last two letters of the regional symbol. For example, the first number appointed by the Southwest Region would be given the designation symbol: DAR-1-FS-SW.

(b) The appointing office will provide pocket seal presses and lead seals to designees whose authorized functions require the attachment of FAA Form 8130-3, Airworthiness Approval/Conformity Certification Tag. The seal press die will contain the designee's assigned number and the division designator.

C. *Application Is Denied.* In writing, inform the applicant of the denial and the reasons for the denial.

9. FUTURE ACTIVITIES. Routine surveillance.

CHAPTER 215 PROCESS AN AIRMAN FOR REMEDIAL TRAINING

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: 3730

B. *Avionics*: 5730

3. OBJECTIVE. This chapter provides guidance for using remedial training to achieve future compliance by certificated airmen through methods other than punitive legal enforcement action.

5. GENERAL. When a certificated airman commits an inadvertent act of noncompliance, constructive ways should be sought to restore the airman to an appropriate level of competence. Successful remedial training accomplishes this by showing the airman what happened, why it happened, and how to prevent a recurrence. The FAA's Remedial Training program (RT) involves the following:

- Bringing the incident to the attention of the airman in a positive manner
- Ensuring future compliance through improved skills and competence
- Documenting corrective action and providing a source of information for agency use
- Achieving compliance of certificated airmen without the imposition and expense of certificate or civil penalty action

A. *Eligibility.* The Remedial Training program applies to inadvertent violations of the Federal Aviation Regulations by a certificated airman. Aviation Safety Inspectors (ASIs), must determine inadvertency on a case-by-case basis, based on the investigation of the facts and circumstances of the incident. ASIs must also take into account the airman's past performance and overall attitude toward the incident.

(1) When assessing the airman's eligibility for the Remedial Training program, ASIs must determine if future compliance can be ensured solely through remedial training. For an ASI to establish airman eligibility, the act of noncompliance must meet the following criteria:

- The noncompliance cannot have been deliberate
- The noncompliance cannot have caused an accident
- The noncompliance cannot have indicated a lack of qualification

NOTE: A lack of qualification falls under the FA Act of 1958, as amended, Section 609, and requires airman re-examination. See Vol. 3, Ch. 18, Conduct A Re-examination Test Of An Airman under the FA Act.

- The noncompliance cannot have been caused by gross negligence
- The noncompliance cannot have been of a criminal nature
- The noncompliance cannot have been committed by an employee of an FAA certificated repair station while working under an air carrier approved aircraft inspection program

- The noncompliance cannot have been committed by certificate holders who were exercising the privileges of their certificate for compensation or hire in air transportation service

(2) Also, the ASI must review the airman's enforcement history and evaluate whether that history supports or precludes participation in the Remedial Training program. Although, ideally, program candidates should be first time offenders, previous enforcement history does not automatically exclude an airman from the program.

B. *Remedial Training Process*

(1) After determining airman eligibility, the investigating ASI must make a recommendation for the program to the district Accident Prevention Program Manager (APPM) (or other qualified person designated by the district office manager). The APPM (from the appropriate district or region, when the airman is from another district) is responsible for interviewing the airman and designing, implementing, and monitoring a program that is specific to the airman and the compliance issue.

(2) The airman must complete any agreed-upon Remedial Training program within 120 days of the FAA's becoming aware of the violation. Failure to complete the program within the time limit will result in termination of the airman's participation in the program and initiation of legal enforcement action by the investigating ASI.

NOTE: Unavailability of equipment, airman illness, etc., are conditions for extending the training period. However, the ASI must consider 49 CFR 821.33, the NTSB's "stale complaint" rule.

(3) Once remedial training has begun, there must be a clear distinction made between the investigating ASI and the APPM. The APPM must not be drawn into any aspect of the legal enforcement process, including discussion with the airman of the merits of the case.

(4) After the airman has completed the training program and provided evidence to that effect to the APPM, the APPM informs the investigating ASI of the results. Based on that information the ASI will accomplish one of the following:

- Issue a letter of correction to conclude the case and close out the Enforcement Investigation Report (EIR)

- Initiate legal enforcement action

NOTE: After successful completion of the training course the FAA will discontinue seeking <u>any</u> legal actions against the airman for that violation.

(5) For a detailed description of the Remedial Training program and the role and responsibilities of the APPM, see Order 8740.1, General Aviation Accident Prevention Program, Appendix 7, as amended.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of the Federal Aviation Regulations

- Successful completion of the Airworthiness Inspectors Indoctrination Course or equivalent

B. *Coordination.* This task will require coordination with the FSDO Accident Prevention Program Manager (APPM) and the certificated airman.

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- Order 2150.3, Compliance and Enforcement Program, as amended
- Order 8300.10, Airworthiness Inspector's Handbook, Vol. 2, Ch. 210, Introduction to Conducting Accident and Incident Investigations, Processing a Violation Package, and Responding to a Complaint, Ch. 213, Conduct Violation Investigation, and Vol. 3, Ch. 18, Conduct a Re-examination Test of a Mechanic or an Inspection Authorization Under Section 609 of the FA Act of 1958, as amended

B. *Forms*

- FAA Form 2150-5, Enforcement Investigative Report

C. *Job Aids*. None.

5. PROCEDURES

A. *Initiate the Investigation of the Alleged Violation*

(1) Receive notification of the violation.

(2) Write a letter of investigation. Ensure that the letter includes a statement of what the alleged violation consisted and the assigned EIR number.

NOTE: The regulation(s) violated should not be listed in the letter of investigation

B. *Gather the Supporting Facts*. Gather all related information. This can be accomplished by:

- Reviewing records
- Taking photographs of items associated with the alleged violation
- Acquiring witness statements
- Reviewing technical documents, e.g., manufacturers maintenance manuals, aircraft flight manuals, etc.
- Interviewing the alleged violator
- Acquiring technical information from other agencies, e.g., National Weather Bureau and Air Traffic Control
- Inspecting physical evidence

C. *Analyze the Supporting Evidence*

(1) Review the data collected to ensure that it is relevant, material, and competent.

(2) Review the regulations in conjunction with the items of proof. Ensure that the following questions are answered for each relevant regulation:

- To whom does it apply
- What does it say in its entirety
- When must it be accomplished
- How does it apply in this occurrence
- Are there special conditions
- Are there exceptions or exclusions
- Does this regulation clearly apply
- Are any other regulations applicable to this violation

(3) After this analysis and review, determine if the evidence warrants recommending the airman for the Remedial Training program.

D. *Process an Applicant for Remedial Training.* Ensure that all eligibility factors are thoroughly documented and proceed with administrative enforcement actions.

(1) As a part of the administrative enforcement action, inform the alleged violator, in the Letter of Investigation (LOI), of being eligible for the Remedial Training program.

(a) Ensure that the alleged violator understands the necessity of responding within the response period as specified in the LOI.

(b) If the alleged violator is cooperative and responds within the specified time, contact the APPM in the airman's geographic area of responsibility.

(2) Advise the APPM of all facts, conditions, and circumstances surrounding the alleged violation, to include sending a copy of the investigation file. The responsibilities of the APPM will include the following:

(a) Scheduling a meeting with the alleged violator

(b) Making a final determination of airman eligibility

(c) Creating a course of study based on the following:

- Circumstances of the alleged violation
- Probable strengths and weaknesses of the airman
- Availability of training resources

NOTE: No discussion of the legal aspects of the alleged violation or merits of the case should take place between the airman and the APPM.

(d) Finalizing an agreement, in writing, that acknowledges the act of noncompliance and outlines the terms and conditions of the remedial training agreement. This must be signed by both the APPM and the airman.

(e) Including in the investigation file the documentation of proof of completion, that consists of the following:

- A statement from the instructor/official of the training establishment
- Documentary proof, such as logbook entries and aircraft or simulator rental invoices, etc.
- A record of discussion with the instructor providing the training, if available
- Any other documentation the APPM feels necessary

(f) Notifying the investigating ASI of the results of the remedial training and returning the complete investigation file

7. TASK OUTCOMES

A. *File PTRS Transmittal Form*

B. Upon notification by the APPM of either completion or termination of the remedial training, accomplish one of the following:

(1) If the Remedial Training program was successfully completed:

- Send a letter of correction to the participant. See Order 2150.3, Compliance and Enforcement Program, as amended
- Process the enforcement investigation report per Order 2150.3, as amended

(2) If the Remedial Training program was not finished, unsatisfactorily completed, or was not even started due to a decision by either the airman or APPM:

- Send a letter of rescission to the airman rescinding the airman's privilege to participate in the program
- Resume the process of legal enforcement action. See Vol. 2, Ch. 213, Conduct Violation Investigation

C. *Document Task.* File all supporting paperwork in accordance with Order 2150.3.

9. FUTURE ACTIVITIES. Follow up on requests from Region, Regional Counsel, etc.

[CHAPTERS 216 THROUGH 219 RESERVED]

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CHAPTER 4 CONDUCT COCKPIT EN ROUTE INSPECTION

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: 3629

B. *Avionics*: 5629

3. OBJECTIVE. This chapter provides guidance in conducting a cockpit en route inspection.

5. GENERAL

A. *Inspector Qualifications*

(1) Since Aviation Safety Inspectors (ASIs) do not receive systems training on all aircraft, it is important to become familiar with the type of aircraft being inspected before performing the inspection. This can be accomplished through on-the-job training.

(2) The FAA does not allow two ASIs to perform this job task, therefore familiarity with the en route inspection procedures is a necessity before performing this task.

NOTE: An ASI must be authorized through their principal inspector or unit supervisor.

B. *ASI Conduct.* In performing this job task, the actions of an ASI is subject to the close scrutiny of airline employees and the general flying public. Therefore, be alert for leading questions from crewmembers regarding destinations, technical information, and other operators, although it is imperative that tact and good judgment be exercised at all times.

C. *ASI Expertise.* Airworthiness and operations ASIs possess various degrees and types of expertise and experience. When an ASI needs additional information or guidance, they should coordinate with personnel experienced in that particular specialty.

7. INITIATION AND PLANNING

A. *Initiation.* This task is scheduled as part of the work program. Additional inspections may be initiated by national, regional, or district office special requirements.

B. *Planning*

(1) When possible, an en route inspection should be planned to preclude disruption of company scheduled flight checks by check airmen.

(2) ASIs conducting en route inspections will make arrangements for the jump seat/forward passenger seat as far in advance of the flight as possible. ASIs will have priority for available jump seats, with the following exceptions:

- Where a required company check is being conducted from the jump seat
- If the jump seat is required by Secret Service Agents or National Transportation Safety Board Representatives on official duties

(3) When it is necessary to board a flight at an intermediate stop, every effort should be made to advise the pilot in command, prior to boarding the flight, that an en route inspection will be conducted.

(4) ASIs will use the headsets provided by their district office or the operator, as applicable per the Federal Aviation Regulations.

9. FAA FORM 8430-13, REQUEST FOR ACCESS TO AIRCRAFT. The ASI to whom an FAA Form 8430-13 is issued, is personally responsible for its proper use and safekeeping, to include the following:

- Recording every request issued, canceled, or otherwise voided on the inside cover

- Returning it to the issuing office if the ASI transfers, retires, or has no further use for this book

- Returning the cover containing the Record of Requests Issued and the yellow copies to the issuing office when all requests have been used

- Immediately reporting to the issuing office the full set of circumstances concerning any loss of requests

11. PERFORMING THE COCKPIT EN ROUTE INSPECTION

A. *Maintenance Record Inspection.* Open discrepancies or improperly deferred Minimum Equipment List (MEL) items have been discovered in maintenance records just prior to departure. The resulting corrective actions have resulted in lengthy delays.

(1) Regulations require that maintenance be recorded when performed. Procedures for ensuring that these recording requirements are met are described in the operator's maintenance procedures manual.

(2) The manual contains specific instructions on when an airworthiness release or record entry is required. All discrepancies entered in the record must either be corrected or deferred using the methods identified in the operator's maintenance procedures manual. The ASI must become familiar with the operator's maintenance record handling procedures.

B. *Interior Inspection.* This inspection should be performed without disturbing the loading and/or unloading of the passengers. Any discrepancies noted should be brought immediately to the attention of the flight crew. Perform the interior inspection per the guidance in Vol. 3, Ch. 1, Introduction to Aircraft and Equipment, Figure 1-1, Interior Inspection Guidelines.

C. *Exterior Inspection.* It is recommended to accompany a crewmember on the exterior walk-around to determine the thoroughness of the crewmember's inspection. It is important to be aware of the type of maintenance and servicing activities being accomplished. Perform the exterior inspection per the guidance in Vol. 3, Ch. 1, Introduction to Aircraft and Equipment, Figure 1-2, Exterior Inspection Guidelines.

D. *In-Flight Monitoring*

(1) This phase of the inspection provides the opportunity to monitor aircraft systems and evaluate the effectiveness of maintenance performed to correct maintenance record discrepancies.

(2) It is recognized that ASIs have different degrees of pilot skills, but the airworthiness ASI performing an en route inspection is not there to evaluate the competency of the flight crew. However, if obvious discrepancies are noted, such as a deviation from assigned altitude or other operational procedure, they must be brought to the attention of the pilot-in-command and the assigned Principal Operations Inspector.

(3) While conducting an en route inspection, do not manipulate, operate, select, or deselect any switches, circuit breakers, or controls.

13. CARGO/COMBINATION CONFIGURED AIRCRAFT

A. Inspection results have disclosed instances of significant aircraft structural damage resulting from the careless loading of cargo, such as:

- Torn or punctured liners indicating hidden damage to circumferential stringers, fuselage skin, and bulkheads

- Damaged rollers, ball mats, etc. causing significant structural damage to the floors

- Severe corrosion, fire, and structural damage resulting from the improper handling of some hazardous materials

B. The surveillance of hazardous material handling is not the primary function of the cockpit en route inspection. If discrepancies are noted in the handling of hazardous materials, contact the appropriate FAA Security Division.

15. ASI BAGGAGE. The ASI must conform to the operator's approved carry-on baggage program. If there is any concern that the baggage will exceed operator limitations it should be checked. The ASI's identification (FAA Forms 110A, Aviation Safety ASI credential and 8430-13) is adequate documentation for the operator to check the baggage.

17. DEFERRED MAINTENANCE

A. *Minimum Equipment List Deferred Maintenance.* The operator's approved Minimum Equipment List allows the operator to continue a flight or series of flights with certain inoperative equipment. The continued operation must meet the requirements of the Minimum Equipment List deferral classification and the requirements for the equipment loss.

B. *Other Deferred Maintenance*

(1) Operators frequently use a system to monitor items that have previously been inspected and found to be within serviceable limits. These items are still airworthy, yet warrant repair at a later time or when items no longer meet serviceable limits. This method of deferral may require repetitive inspections to ensure the continuing airworthiness of the items. Examples of items that are commonly deferred in this manner are fuel leak classifications, dent limitations, and temporary (airworthy) repairs.

(2) Passenger convenience item (not safety/airworthiness related) deferrals should be handled according to the operator's program guidelines.

C. The operator's approved maintenance program must provide for the prompt and orderly repairs of inoperative items.

19. CREWMEMBER CERTIFICATES. There have been several occasions in which pilots have operated certificate holder aircraft without having in their personal possession airman certificates and current medical certificates. In some cases, pilots have operated for long periods of time with suspended certificates. Therefore, ensure that all flight crewmembers have the proper certificates in their personal possession.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Parts 121 and/or 135
- Experience in working with the aircraft being inspected. ASIs should have the knowledge to be able to conduct a preflight check.
- Completion of the Airworthiness Inspectors Indoctrination Course or equivalent, and the En Route Course

NOTE: The En Route Course is a mandatory Flight Standards course. ASIs who were previously authorized to conduct en route inspections may continue to do so, but must attend the En Route Course at the earliest possible opportunity.

B. *Coordination.* This task requires coordination between:

- The ASI and the appropriate operator personnel for reserving the jump seat
- Other Airworthiness and Operations ASIs and the possible involvement of regional offices and FAA Security

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- FAR Parts 21, 43, 45, 47, 61, 63, and 91
- Operator's manual

B. *Forms*

- FAA Form 8430-13, Request for Access to Aircraft

C. *Job Aids*

- Vol. 3, Ch. 1, Introduction to Aircraft and Equipment, Figure 1-1, Interior Inspection Guidelines
- Vol. 3, Ch. 1, Introduction to Aircraft and Equipment, Figure 1-2, Exterior Inspection Guidelines

5. PROCEDURES

A. *Initiate the Cockpit En Route Inspection According to the District Office Work Program*

B. *Prepare for Inspection*

(1) Contact the operator's scheduling section to reserve jump seat/forward passenger seat, as applicable.

(2) Complete FAA Form 8430-13, Request for Access to Aircraft, in duplicate. The white copy will be given to the operator and the yellow copy is kept for FAA records.

C. *Coordinate with Operator's Flight Operations Center One Hour Prior to Flight*

(1) Identify yourself to the operator representative and state that you are performing a cockpit en route inspection on a specific flight.

(2) Present FAA credentials (FAA Form 110A) and the completed FAA Form 8430-13 to the air carrier representative.

(3) Obtain the applicable operator boarding authorization. (Each operator has different boarding authorization procedures, but all have some method of accounting for the ASI being on-board.) If aircraft access is denied:

- Advise the operator representative of the regulation authorizing ASI access to aircraft
- Request to see the appropriate supervisor if the representative still refuses access
- Stress the fact that the denial of access is contrary to regulations and that enforcement action may be taken
- Upon return to the office, describe the occurrence to the appropriate supervisors if access was still denied

(4) Proceed to the aircraft as soon as possible to review the maintenance record and to perform interior and exterior pre-departure inspections as time allows. Follow the operator's procedures for pre-boarding the aircraft.

D. *Identify Yourself to The Flight Crew*

(1) Before boarding the aircraft or performing the exterior inspection:

- Identify yourself to the pilot-in-command and flight crew as an Airworthiness ASI
- State the purpose of the inspection

(2) If cockpit access is denied:

- Advise the pilot-in-command of the regulation authorizing ASI access to the pilot's compartment
- Concede to the pilot's wishes if the pilot-in-command still refuses to allow access

- Make it very clear to the pilot-in-command that the denial of access is contrary to regulations and that enforcement action may be taken

- Upon return to the office, describe the occurrence to the appropriate supervisors if access was still denied

E. *Inspect the Aircraft Maintenance Record*

NOTE: Notify the appropriate operator personnel immediately of any discrepancies noted during this inspection.

(1) Ensure the following:

- Maintenance/Airworthiness releases are current

- No open items exist

- All discrepancies are corrected or properly deferred

- Minimum Equipment List items were deferred per the procedural and placarding requirements of the operator's approved program

(2) Ensure the length of deferrals are not exceeded, by reviewing the following:

- Maintenance record pages

- Deferred maintenance list

- Deferred maintenance placards/stickers

(3) Ensure that the maintenance records contain the following for each discrepancy:

- A description of work performed or reference to acceptable data

- The name of the person performing the work if outside the organization

- The name or other positive identification of the person approving the work

(4) Determine if repetitive problems indicate a trend.

F. *Perform the Interior Inspection, as Applicable.* See Vol. 3, Ch. 1, Introduction to Aircraft and Equipment, Figure 1-1, Interior Inspection Guidelines.

G. *Conduct the Exterior Inspection of Aircraft, as Applicable.* See Vol. 3, Ch. 1, Introduction to Aircraft and Equipment, Figure 1-2, Exterior Inspection Guidelines.

(1) Record any discrepancies noted during the exterior inspection and bring them to the attention of the pilot-in-command or appropriate operator personnel.

(2) Evaluate the action(s) taken by the operator in response to the discrepancies.

NOTE: If actions taken by the operator do not comply with regulatory requirements or the operator's manual, terminate the inspection. Advise the operator of the noncompliance and the possibility of enforcement action. If the discrepancy constitutes an unsafe condition, see Vol. 3, Ch. 6, Ground Operator Aircraft.

H. *Prior to Pushback, Accomplish the Following*:

(1) Ensure all of the discrepancies noted during predeparture were corrected

(2) Request and review the pilot and medical certificates of all flight crewmembers. Ensure the following:

(a) *Pilot-in-command.* The pilot-in-command must have in possession the following:

- An Airline Transport Pilot certificate

- First class medical certificate, which is valid for six months

- Appropriate type rating for the aircraft being operated

(b) *Second in command.* The First Officer must have in possession the following:

- At least a commercial pilot certificate in the appropriate category and class
- Appropriate instrument rating for the aircraft being operated
- At least a second class medical certificate, which is valid for twelve months

(c) *Flight engineer.* Flight engineers must have in their possession the following:

- Appropriate flight engineer's certificate
- Second-class medical, which is valid for twelve months

(3) If the flight crewmembers do not have the proper, current certificates in their possession:

(a) Advise the offending crewmembers that they will be in violation of FAR §§ 61.3 and/or 63.3

(b) If the flight crewmembers still elect to operate the aircraft without having the appropriate certificates in their possession:

- Deplane
- Terminate this inspection
- Immediately notify the operator's operations center

(4) Ensure the load manifest contains the following information:

- The number of passengers
- The total weight of the loaded aircraft
- The maximum allowable takeoff weight for that flight
- The center of gravity limits
- The actual center of gravity of the loaded aircraft, unless the aircraft is loaded according to an approved loading schedule
- The registration number of the aircraft or the flight number
- The origin and destination of the flight
- The identification of the flight crewmembers and their respective position assignments

(5) Ensure the proper fuel load is on-board by comparing fuel gages to the minimum fuel required for dispatch. This fuel requirement is normally found on the dispatch release.

I. *Monitor In-flight Operations*

NOTE: During the en route inspection, point out any potential violations prior to their occurrence and inform the crew of the possible consequences.

(1) Ensure the flight crew is using and following the operator's approved checklists for all activities.

(2) Exercise good cockpit discipline and ensure the flight crew does the same, to include the following:

- Sterile cockpit rule compliance
- Proper use of cockpit/personal lighting
- Compliance with the pilot-in-command's requests

(3) Monitor all gages during flight for normal operation.

(4) Monitor communications for crew compliance with air traffic control.

(5) Ensure that left and right-seat crewmembers are in compliance with the oxygen requirements of the Federal Aviation Regulations.

(6) Note and record all discrepancies observed.

NOTE: To assist the crew, be alert for any conflicting air traffic

J. *Debrief Flight Crew.* At the termination of the flight, state whether the operations were satisfactory or unsatisfactory.

(1) If irregularities were noted in the performance of any aircraft system, discuss them with the pilot-in-command. Ensure that these discrepancies are entered in the aircraft maintenance record. If the pilot-in-command is unwilling to enter these discrepancies, advise that the failure to record these discrepancies is contrary to regulatory requirements.

(2) Unsatisfactory operational findings should be brought to the attention of the operator's assigned Principal Operations Inspector.

7. TASK OUTCOMES

A. *File PTRS Transmittal Form*

B. Completion of this task can result in the following:

- Satisfactory inspection
- Requirement for a follow-up inspection for a specific discrepancy

C. *Document Task.* File all supporting paperwork in the operator's office file.

9. FUTURE ACTIVITIES. Schedule follow-up inspections, as applicable.

CHAPTER 25 MONITOR AN AIR SHOW/AIR RACE

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: 3684 (air show), 3685 (air race)

B. *Avionics*: 5684 (air show), 5685 (air race)

3. OBJECTIVE. This chapter provides guidance for ensuring that those aircraft, authorized to participate in an air show or air race, comply with regulatory requirements and maintain the highest possible standards of safety.

5. GENERAL. The surveillance of air shows and/or air races is mainly an operations function. General Aviation Airworthiness Aviation Safety Inspectors (ASIs) will work closely with Operations ASIs in the surveillance of these aviation events.

A. *ASI Duties.* The Airworthiness ASI's primary functions are to ensure the continued airworthiness of participating aircraft, monitor the safety practices of participating individuals, and ensure compliance with waivers and authorizations. The assigned ASI's duties include:

- Preseason evaluation meeting
- Evaluation of waivers and authorizations
- Recommendation of issuance or denial
- Air show/race surveillance
- Review of airman and aircraft certification

(1) *Review of Certification.* The review of airman and aircraft certification involves three main duties:

- Review of the aircraft records to ensure that the state of inspection is current
- Examination of the general condition of the aircraft
- Examination of the packing records of emergency parachutes to determine the status of inspection and overall condition

(2) *Advance Notification.* To avoid last minute delays, the ASI should have the air show coordinator remind the participants to have the appropriate aircraft and packing records ready for inspection before the show. Early contact with the organizers of air show events is encouraged so that informational activities and accident prevention strategies can be planned.

(3) *Responsibility for Safety.* While the show sponsor is responsible for crowd control, ASIs should keep in mind the safety of the spectators. Any safety-related deficiencies shall be brought to the attention of the show/race monitor immediately.

B. *ASI Authority.* Although the ASI's authority is not limited to the following, the ASI is authorized to:

- Change the effective time and date of the waiver after proper coordination with the appropriate air traffic facility
- Add performers to the Schedule of Events if all terms of the certificate of waiver or authorization can be met
- Cancel or delay any acts if it is deemed necessary in the interest of safety

(1) Because of fluctuating weather conditions, sometimes participants will be unable to perform their normal routines. ASIs should avoid canceling an act if it is possible to cancel parts and still allow the demonstration to continue in a modified form.

(2) Aviation events normally operate on very tight schedules; ASIs should not interrupt events except to address safety-related issues requiring immediate attention.

(3) During air shows and air races, ASIs will have frequent contact with the general aviation community. ASIs are encouraged to present a positive image.

C. Aircraft Used in Parachute Operations

(1) Aircraft engaged in sport parachuting operations must be operated in accordance with the rules prescribed in FAR Part 91. Additionally, large aircraft may be subject to the applicability of FAR Part 125.

(2) Aircraft involved in parachute jumping operations may have been modified to accommodate the jumpers. Such modifications require documentation of approval by the FAA.

D. *Special Situations.* For a large or complex event the regional office may supplement these procedures to cover unique situations. ASIs should contact the Flight Standards Division of the appropriate region for further guidance.

7. MILITARY AIRCRAFT

A. FAR § 91.7 defines the certification requirements for civil aircraft.

(1) In order for surplus military aircraft to operate, they must posses one of the following:

- A special flight authorization issued under FAR § 91.717
- An appropriate and current airworthiness certificate, as defined under FAR § 91.7

(2) When an airworthiness certificate is appropriate and when the aircraft does not conform to a type certificate or aircraft listing (surplus military aircraft), the aircraft must have an experimental certificate issued for exhibition and/or air racing.

B. FAR § 91.319 prescribes the requirements for operating limitations. The original issuance of an experimental certificate is usually the responsibility of a Manufacturing Inspection District Office (MIDO). Necessary guidance for the issuance of experimental certificates and the accompanying operating limitations is provided in FAA Order 8130.2, Airworthiness Certification of Aircraft and Related Approvals.

(1) The operating limitations assigned to the aircraft must include the serial number of the aircraft and must be kept together with the airworthiness certificate. These materials will contain the required maintenance and operational limitations.

(2) Limitations will state that the aircraft shall not be flown unless it is maintained and operated in accordance with appropriate military technical publications or manufacturers' instructions for the aircraft. In many cases, the specific publications will be included.

(3) The aircraft limitations may also contain a statement to the effect that no person shall operate the aircraft unless the aircraft has had a condition inspection performed within the preceding 12 calendar months in accordance with Appendix D of FAR Part 43 and has been found to be in a condition for safe operation. Within the record of the inspection, a statement should be included certifying that the aircraft has been inspected on a specific date in accordance with the scope and detail of Appendix D of FAR Part 43 and found to be in a condition for safe operation. The entry should include the aircraft total time-in-service, and the name, signature, and certificate type and number of the person performing the inspection.

C. The ASI should verify that the airworthiness certificate is available and refer to the attached operating limitations for any specific information concerning area of flight, authorized maneuvers for which the aircraft has been tested and approved, type of maintenance necessary, and method of verifying that the aircraft is in a condition for safe operation.

D. Surplus military U.S. or foreign-manufactured turbine-powered airplanes must be operated only by those persons authorized by Flight Standards personnel to do so through a letter of authorization. It is imperative that ASIs, when

handling applications for such experimental exhibition certificates, ensure that the purpose is valid. ASIs should also advise the appropriate geographic FSDO via telephone of the application and furnish that FSDO with a copy of the certificate and operating limitations provided to the operator.

E. ASIs monitoring aviation events where a military jet aerobatic demonstration will be performed must have satisfactorily completed on-the-job training in a military aviation event. This training should include participation in the feasibility determination, the preseason evaluation meeting, waiver preparation, and air show surveillance. District offices with no ASI meeting the above qualifications should contact the regional air show coordinator to request training by a qualified ASI from another district office.

9. INTEROFFICE COORDINATION. District office managers should monitor air show activity within their geographical area regularly and communicate any significant issues to the regional air show coordinator. Issues requiring immediate attention (i.e., denial of application for waiver or authorization) should be reported immediately to the appropriate regional air show coordinator, who should forward any necessary information to AFS-20. In order to facilitate future handling of aviation event issues, the sharing of related information among district offices is encouraged.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Parts 43, 65, and 91
- Completion of the Airworthiness Inspectors Indoctrination Course or equivalent
- Completion of on-the-job training and participation in the issuance of a certificate or waiver
- Completed surveillance of three aviation events accompanied by a qualified Aviation Safety Inspector (ASI)
- For events with military aircraft, completion of on-the-job training in a military aviation event

B. *Coordination.* This task requires coordination with Operations ASIs, and may require coordination with regional specialists.

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- FAR Parts 1, 61, 103, 105, and 125
- Order 8130.2, Airworthiness Certification of Aircraft and Related Approvals
- Advisory Circular 105, Sport Parachute Jumping, as amended
- Advisory Circular 91, Waivers: Aviation Events, as amended
- Advisory Circular 103, The Ultralight Vehicle, as amended
- Advisory Circular 125, Operations of Large Airplanes Subject to FAR Part 125, as amended

B. *Forms*

- FAA Form 7711-1, Certificate of Waiver or Authorization

C. *Job Aids.* None.

5. PROCEDURES

A. *Review Certificate of Waiver or Authorization.* Review FAA Form 7711-1 to determine the type of aircraft involved in the activity.

B. *Attend the Pre-Show Briefing.* Discuss any requirements regarding scheduling, inspection of the air show/air race aircraft, and related activities.

C. *Inspect Participating Aircraft*

(1) Review the aircraft records to ensure the following:

- The currency of the state of inspection
- Modifications made to aircraft to accommodate sport parachutists have documentation of field approval by the FAA, or a Supplemental Type Certificate (STC)

(2) Inspect the aircraft for the following:

- The aircraft's general condition
- Modifications made for the accommodation of sport parachute jumping
- Current status of operating limitations for door removal, if applicable. Consult Advisory Circular 105, Sport Parachute Jumping, as amended, for a list of aircraft that have been flight-tested for operating limitations with the door removed.
- Airworthiness certificates, registration certificates, and operating limitations, as appropriate

D. *Inspect Parachutists' Equipment.* Inspect parachutists' equipment to ensure the following:

(1) The main parachute has been packed within the previous 120 days

(2) The auxiliary parachute has been packed by a certificated and appropriately rated rigger

(3) The equipment has been manufactured under a type certificate or technical standard order, or is a personnel-carrying military parachute

(4) The auxiliary parachute has been packed by a certificated person within the time requirements prescribed by FAR § 105.43

(5) The certificated parachute rigger's seal has been installed properly

(6) The parachute packs and harness are in good condition

E. *Brief Air Show/Air Race Inspector-in-Charge.* Bring any safety-related deficiencies to the immediate attention of the Operations ASI in charge of monitoring the air show/air race.

F. *Perform Supplemental Procedures, As Required.* Contact the Flight Standards Division of the appropriate region for further guidance, as appropriate.

7. TASK OUTCOMES

A. *File PTRS Transmittal Form*

B. *Document Task.* Coordinate all supporting paperwork with the Operations ASI in charge of monitoring the air show/air race.

9. FUTURE ACTIVITIES. None.

CHAPTER 39 INSPECT FAR PART 135 (9 OR LESS) AIR CARRIER

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: 3637

B. *Avionics*: 5637

3. OBJECTIVE. This chapter provides guidance in inspecting the aircraft, maintenance records, maintenance programs, and facilities of a FAR § 135.411(a)(1) operator.

5. GENERAL

A. This inspection can be conducted as a result of the following:

- An annual requirement
- As part of a continuous surveillance activity
- Reported problems with the carrier, e.g., complaint, Service Difficulty Report, accident, etc.
- Request by the office manager, district office, or region

B. FAR § 135.411(a)(1) requires operators operating aircraft type certificated for nine or less passenger seats to comply with either the inspection and record keeping requirements of FAR Part 91 or an Approved Aircraft Inspection Program (AAIP). Although this is in accordance with FAR § 135.419, the additional maintenance requirements in FAR § 135.421 must be still be met.

C. *Cargo Operations, FAR Part 135 (9 or less).* The requirements of FAR § 91.409(b) only apply to aircraft that carry revenue passengers. This allows cargo operations to function without using the 100-hour inspection.

7. APPROVED AIRCRAFT INSPECTION PROGRAM

A. An Approved Aircraft Inspection Program provides a means for a certificate holder to incorporate specific inspection requirements into an inspection program. The program can be used to control repetitive Airworthiness Directives (ADs) and special inspections resulting from Mechanical Reliability Reports (MRR's) or other service experience.

B. The program must encompass the total aircraft, including all installed equipment such as communications and navigational equipment, cargo provisions, and emergency equipment. It must include a schedule of the individual tasks, or groups of tasks, that comprise the program and the frequency with which these tasks are accomplished. The operator must substantiate the program and any revisions to the Aviation Safety Inspector (ASI).

C. When a group of aircraft involved in an aircraft pool are under an Approved Aircraft Inspection Program, each operator must maintain the required operations specifications for any pooled aircraft used. In addition, each operator involved in the pool is responsible for having procedures that determine the current maintenance status of each aircraft used from the pool.

9. ADDITIONAL MAINTENANCE REQUIREMENTS (FAR § 135.421)

A. Any operator maintaining aircraft under FAR § 135.411(a)(1) must comply with the maintenance requirements of FAR § 135.421 for engines, propellers, rotors, and emergency equipment.

B. An operator may use either the manufacturer's recommended maintenance requirements or a program developed by the operator and approved by the administrator. Any change to a program developed by an operator requires FAA approval.

11. MAINTENANCE PROGRAM APPROVAL FOR CARRY-ON OXYGEN EQUIPMENT USED FOR MEDICAL PURPOSES

A. Carry-on oxygen to be used for medical purposes must be of an approved type. If the oxygen is owned by the operator, it must be under an approved maintenance program.

B. The maintenance program for carry-on oxygen equipment used for medical purposes is approved for use on Operations Specifications Paragraph D-71 as an item of emergency equipment.

13. REVISING TIME LIMITATIONS

A. Revisions to inspection and overhaul time limitations for powerplants, propellers, rotors, and emergency equipment are based on service experience. The operator may request authorization for a time increase if the request is accompanied by supporting data. The supporting data must substantiate that the increase will not adversely affect the airworthiness of the aircraft.

B. Items whose deterioration is not affected by operational hours (such as electronic units and emergency flotation equipment) should have their time limitations established in terms of calendar time.

C. Time limitation extensions are approved and authorized for use by amending the operations specifications.

15. FAR PART 135, ON DEMAND AIR TAXI EXEMPTIONS ALLOWING PILOTS TO REMOVE AND REPLACE SEATS. Several on demand Air Taxi Operators have requested and received an exemption allowing company pilots to remove and/or replace seats in aircraft operated under FAR Part 135.

A. The exemption allows a change in aircraft configuration for the purpose of hauling cargo or if used as an air ambulance under the following conditions:

- While operating out of remote areas
- When there are no certificated mechanics available
- When the pilot is properly trained to accomplish the job task and maintenance recording requirements

B. Principal Maintenance Inspectors are to review these exemptions and to ensure the following are accomplished:

- Ensure the weight and balance program for all approved configurations are reviewed
- Ensure the configurations are in the approved flight manual
- Ensure the Operations Specifications, Part A, paragraph A5 (Exemptions) and Part E, paragraph E96 (Weight and Balance) reflect any changes relating to the exemption

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Part 135
- Successful completion of the Airworthiness Inspectors Indoctrination Course or equivalent, and the Air Taxi Certification Course
- Previous experience with FAR Part 135 (9 or less) certification and surveillance

B. *Coordination.* This task requires coordination between Avionics and Maintenance Aviation Safety Inspectors (ASIs).

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- FAR Parts 43, 65, and 91
- Advisory Circular 120-49, Certification of Air Carriers, as amended
- Advisory Circular 135-10, Approved Aircraft Inspection Program, as amended
- Operations Specifications
- Operator's maintenance manual

B. *Forms.* None.

C. *Job Aids.* None.

5. PROCEDURES

A. *Review the Certificate Holding District Office's Operator Files.* Review the following:

(1) *Operations specifications, Paragraph D71, Approved Airplane Inspection Program, when applicable.* Ensure the following:

- All aircraft under this program are listed by make, model, serial and registration numbers
- The program being used is identified

(2) *Operator's Maintenance Manual, when Applicable.* Review the following:

- Procedures for approving an aircraft for return to service after inspections and non-routine maintenance
- Procedures for conducting inspections
- Procedures to ensure that the record keeping requirements of FAR § 91.417 are met

B. *Perform an On-site Inspection*

(1) *Inspect the Aircraft Maintenance Records.* Ensure that records meet the requirements of FAR § 91.417, including:

- A description of work performed or reference to acceptable data
- The signature and certificate number of person approving "return to service"

(2) *Inspect the Aircraft.* Inspect the operator's aircraft to ensure that:

- Aircraft meet the type design
- Aircraft are properly registered and certificated
- Aircraft are in condition for safe operation

(3) *Inspect the Facilities.* Inspect the maintenance facility used by the operator to ensure that the operator's aircraft can be safely maintained.

(4) *Review the Maintenance Program.* If the operator is on a program other than a 100-hour/annual, ensure that:

- The latest revision is in the program

- The program is available to the operator's maintenance personnel

(5) *Review the records for a FAR Part 135, on demand Operator Exemption, if applicable.* Ensure the following are accomplished:

- The weight and balance program for all approved configurations are reviewed
- The configurations are in the approved flight manual
- The Operations Specifications, Part A, paragraph A5 (exemptions) and Part E, paragraph E96 (Weight and Balance) reflect any changes relating to the exemption

7. TASK OUTCOMES

A. *File PTRS Transmittal Form*

B. *Document Task.* File all supporting paperwork in the operator's office file.

9. FUTURE ACTIVITIES. None.

CHAPTER 45 SURVEILLANCE OF 121/135 OPERATORS PARTICIPATING IN "COORDINATING AGENCIES FOR SUPPLIER'S EVALUATION" (C.A.S.E.)

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance:* (See Task Outcomes)

B. *Avionics*: (See Task Outcomes)

3. OBJECTIVE. This chapter provides guidance to be used in inspecting a FAR Part 121/135 operator participating in "Coordinating Agencies for Supplier's Evaluation" C.A.S.E.

5. GENERAL. The purpose of C.A.S.E. is to conduct audits of various suppliers and vendors through a cooperative effort of the member airlines. These audits are a method for the analysis, control, and acceptability of those vendors supplying parts and maintenance services to member airlines. These C.A.S.E. audits are found to satisfy the requirements of FAR §§ 121.373 and 135.431.

7. C.A.S.E. PROGRAM STANDARDS

A. To ensure that C.A.S.E. auditors maintain a consistency in qualifications, the association has a strict training and certification program. Since the Aviation Safety Inspector's (ASI's) inspection responsibilities do not include surveillance of the C.A.S.E. program itself, but how the operator is performing to C.A.S.E. guidelines, the ASI should concentrate on operator auditor training programs and recordkeeping.

B. *Auditor Training*

(1) The C.A.S.E. program provides specific minimum requirements in terms of auditor background and experience required for the auditor to be recognized by the membership. In addition, each auditor trainee must pass a written test, oral examination, and a practical demonstration of their skills and capabilities as an auditor.

(2) Only auditors authorized through the C.A.S.E. Air Carrier Auditor Authorization Program are allowed to submit supplier/vendor change information to the database

C. *Operator Recordkeeping*

(1) The C.A.S.E. organization publishes a policy and procedures manual that outlines the program in its entirety, including methods for selecting and training auditors, and evaluation standards for evaluating the vendor/supplier.

(2) Members voluntarily exchange the names of vendors/suppliers whose quality control systems comply with C.A.S.E. program standards as determined by an on-site technical audit. Those vendors and suppliers are listed in a register which is published and updated periodically.

(3) C.A.S.E. members will provide FAA representatives access to their C.A.S.E. Register of vendors and suppliers.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Part 121 and/or 135
- Completion of the Airworthiness Inspectors Indoctrination Course or equivalent

B. *Coordination.* This task requires coordination with the operator.

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- FAR Parts 43, 91, and 145
- Operator's policy and procedures manual
- C.A.S.E. Air Carrier Section Policy and Procedures manual
- Order 8300.10, Airworthiness Inspector's Handbook, Vol. 2, Ch. 95, Evaluate FAR Part 121/135 Operator/Applicants for Participation in "Coordinating Agencies for Supplier's Evaluation" (C.A.S.E.), Vol. 3, Ch. 42, Inspect FAR Part 121 Operator's Maintenance Records, and Ch. 44, Inspect FAR Part 135 (10 or More) Operator's Maintenance Records

B. *Forms.* None.

C. *Job Aids.* None.

5. PROCEDURES

A. *Review the Operator's Policy and Procedures Manual.* Ensure that the operator's manual reflects the requirements as outlined in the C.A.S.E. Air Carrier Section Policy and Procedures manual.

B. *Review the Operator's Personnel/Training Records.* Ensure that the operator's C.A.S.E. auditors are qualified and meet the requirements to maintain their authorization as outlined in the C.A.S.E. Air Carrier Section Policy and Procedures manual.

C. *Review the Operator's Recordkeeping System.* Ensure that the operator's recordkeeping system meets the reporting requirements for the C.A.S.E. program.

D. *Review the Operator's Maintenance Program.* Ensure that the operator's participation in C.A.S.E. conforms to the operator's approved maintenance program.

7. TASK OUTCOMES

A. *File PTRS Transmittal Form.* Since this task usually is performed as a part of another task, this task does not have its own PTRS code. Therefore, the PTRS code for the main task being performed should be the code used for this task.

B. Successful completion of this task will result in the operator's continued participation in C.A.S.E.

C. *Document Task.* File all supporting paperwork in the operator's office file.

9. FUTURE ACTIVITIES. Normal surveillance.

[CHAPTERS 46 THROUGH 59 RESERVED]

[CHAPTERS 46 THROUGH 59 RESERVED]

CHAPTER 129 PROCESS MALFUNCTION OR DEFECT REPORT

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: 3456

B. *Avionics*: 5456

3. OBJECTIVE. This chapter provides guidance in processing a Malfunction or Defect (M or D) Report as required by FAR §§ 125.409 and 145.63.

5. GENERAL. The Malfunction or Defect Report is a means of reporting aircraft, powerplant, and appliance problem areas. Although the Malfunction or Defect Report was intended for the specific use of FAR Parts 125 and 145; owners, operators, agencies, mechanics, and pilots may use this system to report any "potential" or existing problem areas that might affect the airworthiness of an aircraft.

A. Whenever a system component or part of an aircraft, powerplant, propeller, or appliance functions improperly or fails to operate in the approved (type certificated) manner, it has malfunctioned and is reportable. Additionally, if a system or component has a flaw that impairs or may impair its future function, or has a part installed improperly, it is defective and should be reported.

NOTE: Repeat problems affecting the same aircraft, powerplant, propeller, appliance or system must be reported to enable AVN-143 to detect possible trend items.

B. Reporting operators and agencies are not bound to any specific reporting format as long as the following information is included:

- Make
- Model
- Part number
- Name
- Serial number, as applicable
- The specific problem and condition
- Corrective action, as applicable
- Diagram, as applicable

NOTE: Malfunction or Defect Reports, FAA Form 8010-4, with prepaid postage are supplied by the FAA to encourage reporting.

C. Data provided for and included in Malfunction and Defect reports can be used by AVN-143 for the following:

- Determining maintenance trends that may affect aviation safety
- Revealing other trends, such as problems with vendors, manufacturers, training, and/or procedures
- Evaluating the overall effectiveness of an inspection and maintenance program

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Parts 125 and/or 145 as applicable
- Knowledge of the equipment involved

B. *Coordination.* This task may require coordination with the Principal Airworthiness Inspectors, regional offices, AVN-143 (National Safety Data Branch), and FAA Engineering.

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- FAR Parts 21, 43, and 91
- Order 8010.2, Flight Standards Service Difficulty Program, as amended

B. *Forms*

- FAA Form 8010-4

C. *Job Aids.* None.

5. PROCEDURES

A. *Review the Operator Report*

(1) Ensure that the submitted report includes the following item information:

- Make
- Model
- Part number
- Name
- Serial number, as applicable
- The specific problem and condition
- Corrective action, as applicable
- Diagram, as applicable

(2) Determine if the submitted information requires a submitted report. Prior to submitting the report, ensure the information is complete and accurate. Contact the operator for clarification, as applicable, and if necessary visit the site.

B. *Submit a Malfunction or Defect Report.* Report serious airworthiness problems to AVN-143 (National Safety Data Branch) and the regional office immediately. The FAA Engineering branch responsible for the product must be informed of the equipment service difficulty along with any recommendations for corrective actions.

(1) If the airworthiness problems are critical to safe flight, report them immediately by phone, followed with a written report within 24 hours.

(2) If the airworthiness problem is determined not to be critical to safe flight, it must be reported within 72 hours. If the information available within that time is incomplete, all known conditions must be reported. The report must indicate whether follow-up action is required.

C. *Conduct Investigation.* If operator trends are identified, determine if there is a need for a change in the operator's policies or procedures.

7. TASK OUTCOMES

A. *File PTRS Transmittal Form*

B. Completion of this task results in a completed report submitted to AVN-143.

C. *Document the Task.* File all supporting paperwork in the operator/agency's office file.

9. FUTURE ACTIVITIES. If necessary, take the appropriate action to resolve deficiencies in the operator's policies or procedures.

CHAPTER 132 INSPECT OPERATOR'S SUB BASE FACILITY

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: 3340

B. *Avionics*: 5340

3. OBJECTIVE. This chapter provides guidance for inspecting an operator's sub base facility for compliance to FAR Parts 121, 125, and 135 (10 or more), as applicable.

5. GENERAL. The sub base inspection is performed to determine if adequate housing, equipment, spare parts, technical data, and qualified personnel are available to satisfactorily complete all maintenance functions.

7. PERFORMING THE INSPECTION

A. If the sub base inspection is not performed by the Certificate Holding District Office (CHDO), the Aviation Safety Inspectors (ASIs) performing the sub base inspection should coordinate with the CHDO principal inspectors for information and guidance, to include the following:

- The types of equipment operated
- The capabilities of the maintenance organization
- The staffing requirements

B. *Performing the Inspection.* When a sub base inspection is performed, the maintenance facilities and their related activities must be evaluated. The performance of assigned tasks must fall within the limitations and the capabilities of the facility. ASIs should be aware that equipment and activities will vary between operators due to differences in the complexity and capabilities of their respective maintenance facilities.

C. *Equipment Identification.* ASIs should be aware of the type of aircraft being operated, as the type of aircraft can dictate the range and type of activities being performed. The operations specifications or attached listing will identify the registration numbers of the aircraft authorized for use.

D. *Facilities.* The sub base is required to perform maintenance in accordance with the operator's maintenance manuals. Therefore, the manuals should be used by the ASI to help determine what special equipment, housing, and environmental conditions are necessary to perform the work.

E. *Contract Maintenance Arrangements.* If any maintenance is being performed by a contract facility, an inspection must be performed at the contractor's facility.

F. *Enforcement History.* ASIs should check the Vital Information System (VIS) to determine if there are any areas that require special attention. If a contract maintenance organization is being used, it should also be checked.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Parts 121, 125, or 135, as applicable
- Completion of the Airworthiness Inspectors Indoctrination Course or equivalent
- Familiarity with the type of operation being inspected

B. *Coordination*

(1) This task requires coordination among the assigned principal inspectors.

(2) If the task is performed by the office with geographic responsibility, coordinate with Certificate Holding District Office (CHDO) principal inspectors.

3. REFERENCES, FORMS AND JOB AIDS

A. *References*

- FAR Parts 43 and 65
- 49 CFR Part 173
- Operator's maintenance manual
- Operation Specifications
- Order 8300.10, Airworthiness Inspector's Handbook, Vol. 3, Ch. 2, Conduct Spot Inspection of Operator's Aircraft and Vol. 3, Ch. 135, Monitor Operator's Refueling Procedures

B. *Forms.* None.

C. *Job Aids.* None.

5. PROCEDURES

A. *Review the Operator's Data.* Review the following:

(1) The district office files to determine if any chronic or open items exist, the status of Enforcement Investigation Reports, etc.

(2) The operator's maintenance manuals to determine the level of maintenance accomplished and the complexity of the sub base operation

(3) The operator's operations specifications to determine the maintenance and inspection program content and complexity, as applicable

B. *Inspect the Operator's Technical Library.* Ensure that all required technical data is available and current. If the data is on microfiche, ensure that readers are available and that they are serviceable. The data must include the following, as applicable:

- Operator's general maintenance manual
- Aircraft manufacturer's manuals
- Propeller, appliance, engine, and emergency equipment manufacturer's manuals
- Applicable Federal Aviation Regulations
- Applicable Airworthiness Directives (ADs)
- Applicable type data sheets/Supplemental Type Certificates
- Operations Specifications

C. *Inspect the Maintenance Records.* Ensure the following:

(1) Maintenance is performed in accordance with the operator's manual procedures

(2) Transfer of records to the main base facility is accomplished in accordance with operator's manual procedures

D. *Inspect the Sub Base Maintenance Organization.* Ensure the following:

(1) Staffing meets the maintenance needs based on the complexity of the operation

(2) Responsibilities are separated between the inspection and maintenance sections

E. *Inspect the Operator's Maintenance Facilities.* Inspect the facilities, to include:

(1) Parts and storage areas, to ensure:

(a) Spare parts are adequate to support the complexity of the operation

(b) Receiving inspections are accomplished in accordance with the operator's manual

(c) Shelf life-limits are established for items and control is in accordance with the operator's manual or manufacturer's recommendations

(d) Components and hardware are properly identified, protected, and classified as to serviceability

(e) Segregation of serviceable and unserviceable components and hardware is maintained

(f) Hazardous materials are suitably segregated and stored

(2) Special tools and test equipment, to ensure:

(a) Serviceability and calibration are accomplished in accordance with the operator's manual

(b) All required items are serviceable and within calibration criteria, to include traceability to one of the following:

- The National Institute of Standards and Technology (NIST)
- A standard established by the item's manufacturer
- If foreign manufactured, the standards of the country where manufactured, if approved by the Administrator

(c) Appropriate types and quantities are available

(d) Proper storage and protection are utilized

(3) Fuel/oil dispensing and storage facilities, if operated and maintained by the operator. Refer to Vol. 3, Ch. 135, Monitor Operator's Refueling Procedures.

(4) Deicing chemical storage and dispensing equipment, if applicable. The following must be inspected:

(a) Chemical storage containers

(b) Serviceability of dispensing equipment

(c) General condition and safety of the storage areas

(d) Training of the personnel in the operator's deicing procedures

NOTE: If deicing services are provided on a contract basis, ensure that the contractor meets the above requirements.

(5) Support shops (avionics, sheet metal, engine, etc.), if applicable, to ensure:

(a) All required technical data is current and available. If the data is on microfiche, ensure that readers are available and serviceable.

(b) Staffing reflects the complexity of the shop

(c) Personnel are properly trained, qualified, and authorized

(d) Procedures for shift turnover are in place and properly utilized

(e) All of the required special tooling and equipment is available, serviceable, and within calibration criteria

(f) Maintenance tasks and inspection functions are being accomplished in accordance with the operator's maintenance manual

(g) Safety equipment is available and serviceable

(h) If applicable, the specialized shop's storage areas are maintained to the same standards as the main storage area

(i) Work areas don't conflict with each other, e.g., a lathe next to an avionics repair area

(j) Lighting, ventilation, and general housekeeping are adequate

(6) Hanger facilities, to ensure:

(a) Facilities are adequate for the work performed

(b) Staffing reflects the complexity of the work performed

(c) Personnel are properly trained, qualified, and authorized

(d) Procedures for shift turnover are in place and properly utilized

(e) Special equipment and tooling is available, serviceable, and calibrated, as applicable

(f) Safety procedures are established and adhered to

(g) Procedures to direct the flow and control of all maintenance and inspection records

(h) Lighting, ventilation, and general housekeeping are adequate

(7) Ground support equipment, to ensure that the equipment is serviceable and appropriate for the work being performed

F. *Inspect the Inspection Department.* Ensure the following:

(1) Designated staffing is adequate for the complexity of the operation

(2) Delegated staffing (Required Inspection Items) is at a reasonable level

G. *Inspect the Aircraft.* Inspect any available aircraft to determine the quality of maintenance being performed. Refer to Vol. 3, Ch. 2, Conduct Spot Inspection of Operator's Aircraft.

H. *Analyze Findings*

(1) Upon completion of the inspection, record all deficiencies noted.

(2) If the inspection was performed by the office having geographic responsibility, coordinate all findings with the CHDO principal inspectors.

7. TASK OUTCOMES

A. *File PTRS Transmittal Form*

B. Completion of this task will result in the following:

- If the inspection was performed by the office having geographic responsibility, a report submitted to the CHDO
- If the inspection was performed by the CHDO, a letter informing the operator of the inspection results
- Enforcement Investigation Reports, as necessary

C. *Document the Task.* File all supporting paperwork in the operator's office file.

9. FUTURE ACTIVITIES. If deficiencies were noted during the surveillance, conduct follow-up inspections as required.

CHAPTER 136 APPROVAL OF PARACHUTE ALTERATIONS

Section 1 Background

1. PTRS ACTIVITY CODES

A. *Maintenance*: Pending

B. *Avionics*: Pending

3. OBJECTIVE. This chapter provides guidance and procedures for approval of parachute maintenance and alterations.

5. GENERAL. The regulatory basis for parachute equipment and jumping is FAR Parts 91 and 105.

A. Parachutes used in connection with civil aviation fall into two classes:

- Parachutes available for emergency use to evacuate aircraft in distress
- Parachutes used for intentional jumping as a sport, in exhibition, or in public service

B. This chapter addresses parachutes used for intentional jumping; however, alteration and airworthiness requirements for intentional jumpers' auxiliary (reserve) parachutes are the same as for any other parachute available for emergency use.

C. Advisory Circular 105-2, Sport Parachute Jumping, as amended, contains additional information about intentional parachute jumping and the equipment used by the intentional jumper.

7. PARACHUTE PACKS/CONTAINERS. FAR § 105.43 prescribes that no person may make a parachute jump from an aircraft unless that person is wearing a single harness dual parachute pack having at least one main parachute and one approved auxiliary parachute.

A. It is the usual practice of persons engaging in intentional parachute jumping to wear a dual parachute pack specifically designed and manufactured for that purpose, or an approved single parachute pack that has been altered to provide the attachment of an additional parachute.

(1) Modern sport parachute equipment, containing both main and reserve/auxiliary parachutes are worn in tandem fashion (one above the other) on the parachutist's back.

(2) The reserve parachute is housed in the upper container and the main parachute is housed in the lower container. Because the harness and container system is one unit, any change or alteration to the main container could affect the operation of the auxiliary/reserve container and should be considered major.

B. The entire auxiliary (reserve) parachute assembly, including the harness, must meet the airworthiness requirements (TSO C-23) for emergency parachutes. The parachute must be maintained in its originally approved or properly altered condition.

C. FAR §§ 91.307(e) and 105.43(d) contain definitions of an approved parachute. An approved alteration of a parachute does not affect its acceptability for the purposes of FAR § 105.43.

D. The main parachute of a single harness dual parachute pack, including the portions of the attachment links, snaps, or quick-release fittings attached to the canopy, does not require approval.

9. ALTERATION OF THE AUXILIARY PACK/CONTAINER

A. The auxiliary pack includes the canopy, lines, risers, attaching hardware, ripcord, container, bridle, and pilot chute.

All components of the approved auxiliary parachute must meet all the airworthiness and performance standards as stipulated in TSO C-23. Auxiliary parachutes may be altered only as specifically authorized by the Administrator or the manufacturer (FAR § 65.129(d)).

B. Examples of alterations made to the auxiliary pack include:

- Addition of a deployment "diaper"
- Moving of the chest strap up or down for parachutist's comfort
- Installation of an automatic activation device (AAD)

Note: Automatic opening device (AOD) is an old term that was changed from AOD to AAD due to legal action.

- Changes in the method of folding or stowing the canopy or lines in the container

11. ALTERATION OF THE HARNESS

A. Good workmanship and close adherence to approved data are critical considerations in the approval of harness alterations.

B. Although it is used to attach both parachutes to the wearer, the harness is considered to be part of the auxiliary parachute. The chrome plating of load-carrying harness fittings may cause hydrogen embrittlement and subsequent failure under stress unless the plating is properly done. Additionally, plated adjustment hardware may have a smoother finish than the original and may permit slippage.

13. ALTERATION OF THE MAIN PARACHUTE

A. The main parachute of a dual parachute pack to be used for intentional jumping may be altered by a master parachute rigger, the manufacturer, or any other manufacturer the Administrator considers to be competent. The alterations are not required to be made in accordance with approved manuals and specifications (reference FAR § 65.125(c)). Master parachute riggers are not required to comply with FAR §§ 65.127 through 65.133 (relating to facilities, equipment, performance standards, records, recent experience, and seal) when altering the main parachute.

B. Any change to the configuration, method of operation, or method of packing the main parachute, up to and including the main canopy attachment links or the male end of the quick release fittings, is a main pack alteration. Any main parachute alteration that affects the strength or operation of the auxiliary parachute, including the harness, must be regarded as an alteration of the auxiliary parachute and handled accordingly.

15. DATA APPROVAL BY AVIATION SAFETY INSPECTORS (ASIs). The ASI should have either a rigger certificate or parachute experience prior to providing field approval services. An ASI with questions about the performance or airworthiness of a parachute alteration that cannot be resolved through the ASI's own technical knowledge and experience should accomplish at least one of the following:

- Require a strength or breakdown test of an individual unit (if strength is in question)
- Require a drop test of an identical unit (TSO C-23 and FAR § 149.23(c) and (d) may be used as guides)
- Consult other regional or district office personnel with appropriate technical knowledge and experience
- Refer the alteration data to the appropriate regional engineering segment

17. HANDLING PARACHUTE ALTERATION DATA

A. The applicant should submit a letter for data approval along with substantiating data to the district office. The data should include:

(1) A clear description of the alteration, the method of complying with approved data such as a reference to the applicable sections of a military specification or TSO, when applicable

(2) Drawings, sketches, or photographs, if necessary

(3) Information such as thread size, stitch pattern, materials used, and location of altered components

(4) Some means of identifying the altered parachute (model, serial number, etc.)

B. When approved, the letter should be signed, dated, stamped with the district office identifier and returned to the applicant. If the data is not acceptable, return the entire file to the applicant and specify the reasons for rejection.

C. If the letter is reviewed by the regional office for approval, it should be returned to the applicant through the originating district office.

D. The district office is not responsible for the evaluation or approval of requests made directly to the parachute manufacturer for approval of alterations.

19. ASSEMBLY OF MAJOR PARACHUTE COMPONENTS

A. Assembly or mating of approved parachute components from different manufacturers may be done without further authorization from the manufacturer or the FAA. The original assembly should be made by a parachute rigger or parachute loft who will ensure that each component of the assembly functions properly and does not interfere with the operation of the other components.

B. The user of a single harness dual parachute pack may perform simple assembly operations necessary for transportation, handling, or storage between periods of use if the parachute is clearly designed to facilitate such assembly and disassembly without the use of complex operations.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Parts 65, Subpart F, 105, and 149
- A parachute rigger certificate or parachute background prior to be able to grant data approval

B. *Coordination.* This task may require coordination with other Airworthiness Aviation Safety Inspectors (ASIs).

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- Advisory Circular 105-2, Sport Parachute Jumping, as amended

B. *Forms.* None.

C. *Job Aids.* None.

5. PROCEDURES

A. *Inspect Auxiliary Parachute.* Ensure that the entire auxiliary (reserve) parachute assembly, including the harness, meets the airworthiness requirements for emergency parachutes.

(1) Ensure that the parachute is maintained in its originally approved or properly altered condition. An approved alteration of a parachute does not affect its acceptability for the purposes of FAR § 105.43.

(2) Ensure that the canopy, lines, risers, attaching hardware, ripcord, container, and pilot chute components of the approved auxiliary parachute meet all the airworthiness and performance standards of the pertinent FAR.

(3) Handle any main parachute alteration that affects the strength or operation of the auxiliary parachute, including the harness, as an alteration of the auxiliary parachute.

B. *Approve Alteration.* For questions about the performance or airworthiness of a parachute alteration that cannot be resolved through the ASI's own technical knowledge and experience on parachute construction, accomplish at least one of the following:

- Require a strength or breakdown test of an individual unit (if strength is in question)
- Require a drop test of an identical unit (TSO C-23 may be used as a guide)
- Consult other regional or district office personnel with appropriate technical knowledge and experience
- Refer the alteration data to the appropriate regional engineering segment

C. *Accept Parachute Alteration Data.* Have the applicant submit a letter for data approval along with substantiating data to the district office. The data should include:

(a) A clear description of the alteration, the method of complying with approved data such as a reference to the applicable sections of a military specification or TSO, when applicable

(b) Drawings, sketches, or photographs, if necessary

(c) Information such as thread size, stitch pattern, materials used, and location of altered components

(d) Some means of identifying the altered parachute (model, serial number, etc.)

7. TASK OUTCOMES

A. *File PTRS Transmittal Form*

B. Completion of this task will result in the following actions:

(1) For an approval; sign, date, and stamp the letter with the district office identifier, and return it to the applicant

(2) For a disapproval; return the entire file to the applicant and specify the reasons for rejection

C. If the letter was reviewed by the regional office for approval, it should be returned to the applicant through the originating district office.

9. FUTURE ACTIVITIES. Routine surveillance.

(3) Handle any main parachute alteration that affects the strength or operation of the auxiliary parachute, including the harness, as an alteration of the auxiliary parachute.

B. *Approve Alteration.* For questions about the performance or airworthiness of a parachute alteration that cannot be resolved through the ASI's own technical knowledge and experience on parachute construction, accomplish at least one of the following:

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9. FUTURE ACTIVITIES. Routine surveillance.

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CHAPTER 5 ACCESS TO PUBLIC AND PRIVATE AIRPORTS, LANDING STRIPS, AND OTHER AREAS USED FOR OPERATION OF AIRCRAFT

1. BACKGROUND. Aviation Safety Inspectors (ASIs) are issued two types of credentials allowing them access to areas used for the operation of aircraft. One credential is FAA Form 110A, ASI's Credential, which entitles an ASI to uninterrupted access to any U.S.-registered aircraft pilot compartment (FAR §§ 121.548 and 135.75). The other is FAA Form 8000-39, Air Operations Area Identification Card, which is for use by ASIs at airports beyond their assigned geographic area where local ID cards have not been issued. During inspections exceeding 24 hours, ASIs outside their assigned area will coordinate with the affected airport for the issuance of a local ID card, where applicable.

3. DEFINITIONS

A. *Private Airport*: Any private property used for the operation of aircraft by the owner or other persons at the invitation or cognizance of the owner.

B. *Public Airport*: Any airport in which the management offers to the public any type of aircraft sales and/or services for compensation.

5. ACCESS TO PRIVATE AIRPORTS, LANDING STRIPS, AND OTHER AREAS. ASIs must advise the owner or agent of a private facility of their desire to enter the premises and the purpose of the visit. An ASI has no authority to enter private property without the owner's permission. As a courtesy, the owner or agent should be invited to accompany the ASI, as this gesture may encourage further cooperation. If the owner or agent is unable to accompany the ASI, the ASI should request permission for access to aircraft for the stated purposes. However, FAA Form 8000-39 authorizes ASIs to be in a restricted area without escort while conducting official FAA inspections.

7. ACCESS TO PUBLIC AIRPORTS. The ASI should give airport management/security sufficient notice of the visit. If the occasion warrants, airport management may be invited to accompany the ASI.

9. DENIAL OF ACCESS. ASIs must consider that entry onto the property of another without authority or permission may be construed as trespassing, regardless of intent. It is rare that an ASI is denied access for the purpose of conducting official duties; however, such a case should be referred to the appropriate supervisory authority.

CHAPTER 6 INFORMAL SURVEILLANCE

1. GENERAL. Because of the nature of informal inspections, the assigned principal Aviation Safety Inspector (ASI) determines the work content, depth, scope, and the specific area of the operation to emphasize. Surveillance visits may help an ASI to maintain acquaintance with the operator's employees and supervisors and familiarization with work methods, program details, equipment configuration, etc. An informal surveillance visit may be used for generalized or nonspecific surveillance of repair, overhaul, modification, or inspection procedures.

3. FAA PRESENCE. Informal surveillance serves to establish the FAA's presence in the operator's activities. Random visits to the operator's work areas remind both the operator and employees that their compliance with the regulations is under continuous surveillance.

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CHAPTER 7 POWERPLANT REPAIRS

1. BACKGROUND. This chapter provides classifications of turbine engine structural parts and the general classifications of engine repairs.

3. TURBINE ENGINE PART CLASSIFICATIONS. Although each manufacturer may not use the identical terminology used below, what they use will be equivalent to the following:

A. Structural engine parts include the following:

(1) All frames

(2) All casings/housings

(3) Engine mounts and associated engine structure

(4) Complete rotor assemblies

B. Engine frames include the following:

(1) Front frames or front bearing support

(2) Compressor rear frame

(3) Turbine mid-frame

(4) Turbine rear-frame or rear bearing support

C. Engine combustion casings/housings include the following:

- Fan casing
- Compressor, low and high
- Combustor casing/housing
- Turbine casing/housing
- Accessory gear-case housing

5. ENGINE REPAIR CLASSIFICATIONS. The following will apply to modular designed turbine engines, non-modular designed turbine engines, and reciprocating engines, as applicable:

A. *Modular Design Turbine Engines.* The following repair classifications will apply:

(1) The changing of modules are not considered a major repair

(2) The disassembly of a module may be a major repair

B. *Non-Modular Design Turbine Engines.* The disassembly of any of the main sections of a turbine engine should be considered a major repair. The main sections consist of the following:

(1) Fan section

(2) Compressor section, low and high pressure

(3) Combustion section

(4) Turbine section

(5) Accessory section

C. *Reciprocating Engines.* Major and minor repairs to structural parts of reciprocating engines are classified as follows:

(1) Major repairs include the following:

- Welding of crankcases
- Machining operations necessitated by a weld repair
- Crankshaft grinding
- Camshaft recontouring and similar complex precision machining
- Boring of crankshaft and camshaft bosses
- Machining of oil-pump housings and accessory drive pads following weld repairs

(2) Minor repairs include simple machine operations, such as spot facing, lapping and grinding valves, and reaming valve guides in accordance with the manufacturer's overhaul and service instructions

D. Further guidance on major and minor repairs, approved data, and approval for return to service can be found in Vol. 2, Ch. 1, Perform Field Approval of Major Repairs and Major Alterations.

APPENDIX 1
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